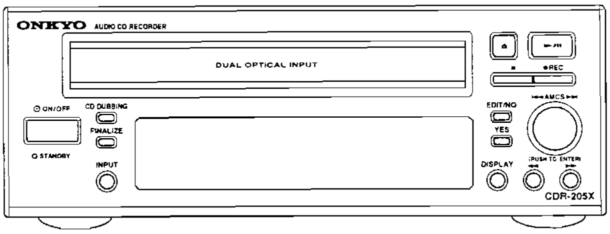
V29127

Ref. No. 3646
052000

ONKYO® SERVICE MANUAL

CD RECORDER

MODEL CDR-205X


ONKYO AUDIO CD RECORDER
DUAL OPTICAL INPUT
ON/OFF
STANDBY
CD DUBBING
FINALIZE
INPUT
REC
EDIT/NO
YES
AMCS
DISPLAY
PUSH TO ENTER
CDR-205X

COMPACT disc DIGITAL AUDIO

COMPACT disc DIGITAL AUDIO Recordable

COMPACT disc DIGITAL AUDIO ReWritable

Silver model		
PP,PT	230 V AC	50Hz
DT	120 V AC	60Hz

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ ON THE SCHEMATIC DIAGRAM AND IN THE PARTS LIST ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE THESE COMPONENTS WITH ONKYO PARTS WHOSE PART NUMBER APPEAR AS SHOWN IN THIS MANUAL.
MAKE LEAKAGE-CURRENT OR RESISTANCE MEASUREMENTS TO DETERMINE THAT EXPOSED PARTS ARE ACCEPTABLY INSULATED FROM THE SUPPLY CIRCUIT BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

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ONKYO®
AUDIO COMPONENTS

SPECIFICATIONS

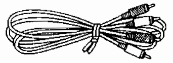
System	Compact disc recorder
Recording/playing time	Max. 80 min (Approx., when using an 80-min disc)
D/A converter	Single-bit
Digital filter	8 times oversampling
Connections	1 analog output, 1 analog input 2 digital input (optical), 1 digital output (optical)
Frequency response	5 Hz to 20 kHz
Playback total harmonic distortion	0.004% (1kHz)
Playback dynamic range	98 dB
Playback signal-to-noise ratio	98 dB
Recording total harmonic distortion	0.006% (1kHz)
Recording dynamic range	92 dB
Recording signal-to-noise ratio	94 dB
Channel separation	90 dB (during playback)
Wow and flutter	Below threshold of measurability
Output level	2.0 V r.m.s. (analog)
Power supply	AC 230 V, 50 Hz, AC 120 V, 60 Hz
External dimensions	205 (W) x 76 (H) x 303 (D) mm
Weight	2.9 kg

Specifications and features are subject to change without notice.

SUPPLIED ACCESORIES

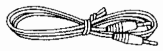
Check that the following accessories are supplied with the CDR-205X.

- **Audio connection cables** × 2

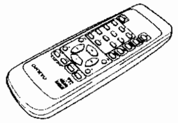


- **Optical digital cable** × 1

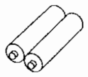
- **RI cable** × 1



- **Remote controller** × 1

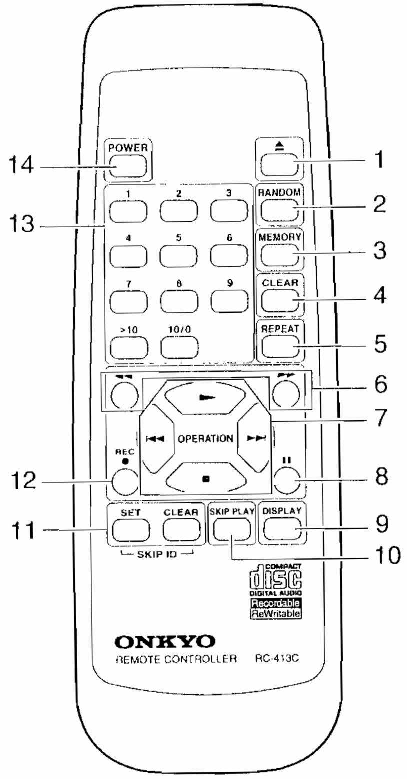


- **Dry-cell batteries (size AA, R06, or UM-3)** × 2



The CDR-205X uses an internal microcomputer that performs many complicated operations; however, on rare occasions, external noise or interference or static electricity may cause the microcomputer to malfunction. If this occurs, unplug the CDR-205X, wait approx. 5 seconds, and then plug it back in.

Remote Controller



RC-413C remote controller

1 **≜ (tray open/close) button**
Press to open and close the disc tray.

2 **RANDOM (random playback) button**
Press to playback the tracks on the disc in random order.

3 **MEMORY (programmed playback) button**
Press to program the tracks to play in memory.

4 **CLEAR (clear program memory) button**
Press to erase the programmed tracks one at a time from the end.

5 **REPEAT (repeat playback) button**
Press to repeat the playback of a disc or a track.

6 **◄◄/►► (rewind/fast forward) buttons**
Press to rewind or fast forward through the track currently playing. Press to move the cursor forward or backward when changing the name of a disc.

7 **OPERATION button**
■ (stop) button
Press to stop recording or playback. Press while playback or recording is stopped to erase the programmed playback memory.
► (play) button
Press to start analog recording, digital recording, and playback.
I◄◄/►►I (skip) buttons
Use to jump to tracks prior to or later than the one currently playing. Use while playback is stopped to select the track to play.

8 **II (pause) button**
Press during playback to pause the playback. Press ► button to resume playback.

9 **DISPLAY button**
Press to change the contents of the display.

10 **SKIP PLAY (skip play mode) button**
Press to turn the skip play mode on or off for discs that contain SKIP commands.

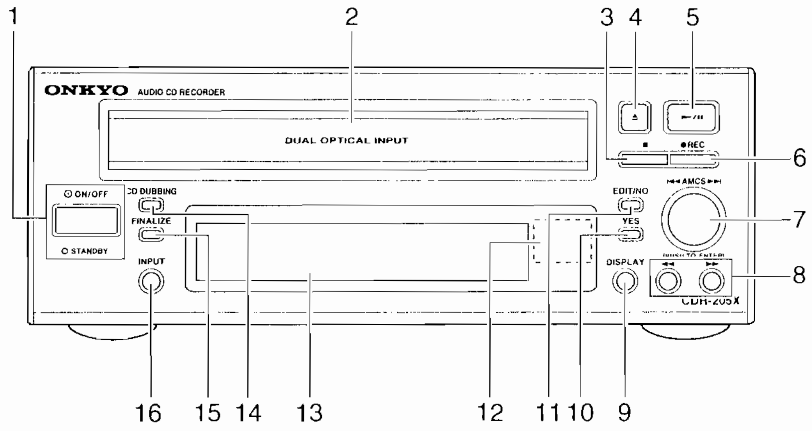
11 **SKIP ID SET/CLEAR button**
Press to place and remove SKIP commands.

12 **● REC (recording) button**
For analog and digital recording, press to place the CDR-205X in the recording standby state.

13 **Numeric buttons**
Press the number for a track to start playback at that track. Also, press to program tracks for programmed playback.

14 **POWER button**
While the ON/OFF switch at the CDR-205X is pressed in, press to switch the CDR-205X between the on state and the standby state.

Front Panel


1
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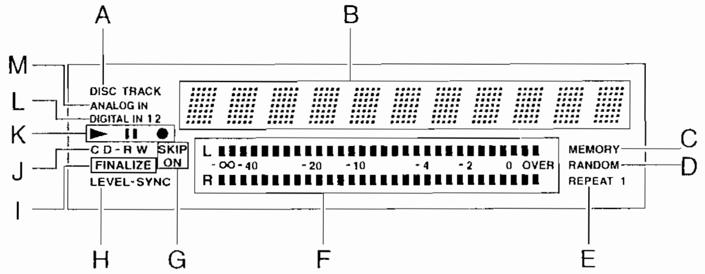
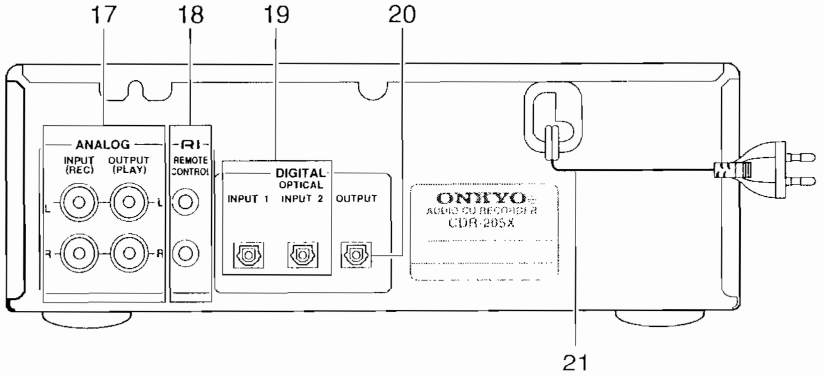
16
ONKYO AUDIO CD RECORDER
DUAL OPTICAL INPUT
ON/OFF
STANDBY
CD DUBBING
FINALIZE
INPUT
EDIT/NO
YES
DISPLAY
AMCS
REC
CDR-205X


A
B
C
D
E
F
G
H
I
J
K
L
M
DISC TRACK
ANALOG IN
DIGITAL IN 1 2
CD-R W
SKIP ON
FINALIZE
LEVEL-SYNC
L
R
-∞ -40 -20 -10 -4 -2 0 OVER
MEMORY
RANDOM
REPEAT 1


17
18
19
20
21
ANALOG
INPUT (REC)
OUTPUT (PLAY)
L
R
RI
REMOTE CONTROL
DIGITAL OPTICAL
INPUT 1
INPUT 2
OUTPUT
ONKYO
AUDIO CD RECORDER
CDR-205X

Front panel

1 **ON/OFF switch and STANDBY indicator**
Press in to turn the power on, and release out to turn the power off. If the power is turned off by the remote control or by another system component, the CDR-205X enters the standby state and the STANDBY indicator lights.

2 **Disc tray**

3 **■ (stop) button**
Press to stop recording or playback. Press while playback or recording is stopped to erase the programmed playback memory.

4 **≜ (tray open/close) button**
Press to open and close the disc tray.

5 **►/II (play/pause) button**
Press to start analog recording, digital recording, and playback. Press during playback to pause the playback. Press again to resume playback.

6 **● REC (recording) button**
For analog and digital recording, press to place the CDR-205X in the recording standby state.

7 **I◄◄ AMCS ►►I dial**
Use to jump to tracks prior to or later than the one currently playing. Use while playback is stopped to select the track to play.

8 **◄◄/►►(rewind/fast forward) buttons**
Press to rewind or fast forward through the track currently playing.

9 **DISPLAY button**
Press to change the contents of the display.

10 **YES button**
Press to finalize settings and confirm display messages during CD dubbing and other operations.

11 **EDIT/NO button**
Press repeatedly to select the operations for CD dubbing, erasing, and other operations. Press while making settings to cancel displayed messages.

12 **Remote control sensor**

13 **Front display**
A DISC/TRACK indicator
B Display
C MEMORY (programmed playback) indicator
D RANDOM (random playback) indicator
E REPEAT (repeat playback) indicator
F Recording level display
G SKIP ON (skip play mode) indicator
H LEVEL-SYNC indicator
I FINALIZE indicator
J CD/CD-R/CD-RW indicator
K ► (play) /II (pause) /● (recording) indicator
L DIGITAL IN 1/2 indicator
M ANALOG IN indicator

14 **CD DUBBING button**
Press to start CD dubbing.

15 **FINALIZE button**
Press to finalize discs onto which you have finished recording.

16 **INPUT button**
Press to select the input source.

Rear panel

17 **ANALOG INPUT (REC)/OUTPUT (PLAY) terminals**

18 **RI REMOTE CONTROL terminals**

19 **DIGITAL OPTICAL INPUT 1/2 terminals**

20 **DIGITAL OPTICAL OUTPUT terminal**

21 **Power cord**

Display messages

Display	Cause	Remedy
Disc Error	• Playback was likely stopped due to dirt, dust, scratches, or vibrations. • The disc has been placed in upside down.	• Eject the disc and check for dirt, dust, and scratches (see page 16). • Eject the disc and check that it is placed in correctly (see page 16). If you place the disc correctly and the same message appears, unplug the power cord and plug it back in again. If the same message appears again, contact an Onkyo service representative.
Sys. Error (flashing)	A malfunction has occurred in the system due to excessive noise or static electricity.	Unplug the power cord and plug it back in again. If the same message appears again, contact an Onkyo service representative.

Messages during recording

Display	Cause	Remedy
Cannot Copy	The input digital signal contains a copy guard signal (SCMS).	Record an analog signal or recordable music signal (see page 48).
Cannot Rec	• The digital input is blocked. • Data has been input in the CD-ROM, etc.	• Verify that the player component is properly playing and the digital cable is properly connected. (see page 12). • Verify that source signal is a normal music signal (see page 18).
Check Input ↓ ↑ Rec Setup	The player component was already playing.	Stop the player component. Shortly thereafter, "Signal Wait" will appear (see page 28).
Rec Setup	The CDR-205X is entering the recording standby state.	Wait until the message disappears.

Messages during recording (continued)

Display	Cause	Remedy
Repair	After recording, the disc was left in the CDR-205X when the power was turned off and the track numbers and recording time data was lost.	While "Repair" is displayed, the CDR-205X is tracing back through the recorded area and repairing the track numbers and recording time data. When the message disappears, finalization of the disc is possible. Depending on the recording amount, this process may take up to 40 minutes.recording time data was lost.
Disc Full	Either the disc is full of recordings or 99 tracks have been recorded and no more recordings can be made on the disc.	Use a new disc.
Pro Disc	A CD-R not for music recording use (without the "FOR CONSUMER" marking) or a CD-RW has been inserted.	Eject the disc and check whether it meets the specifications for use with the CDR-205X. Always insert a disc that has . the markings "FOR CONSUMER" or "FOR MUSIC USE ONLY" on its surface (see page 10).

Messages during playback

Display	Cause	Remedy
Blank Disc	You have tried to play a disc that has no recordings on it.	If the inserted disc is a CD-R or CD-RW with no recordings, you may record onto it, but it cannot be played.
No Disc	No disc has been inserted.	Open the disc tray and make sure that a disc is inserted (see page 16).
Now Setting	The CDR-205X is warming up.	Please wait.
Recovering	This is displayed after the power has been or if the power is accidentally turned off during a recording, the CDR-205X will enter this mode to repair the disc for additional recordings.	Wait until the message disappears (see page 18).
Over	You reached the end of the disc by pressing the search button during playback or while the CDR-205X was paused.	

SERVICE PROCEDURE

Perform a reset

This device employs a microprocessor to perform various functions and operations. If interfarence generated by an external power supply, radio waves, or other electrical source results in an accident which causes the specified operations and functions to operate abnormally.

To perform a reset, please follow the procedure below.

1. It is confirmed for the tray of CD to close.
2. The mechanical power switch is OFF.
3. The mechanical power switch is pushed while pushing "YES" and "EDIT/NO" button from the state with the power supply on.

Safety-check out

(Only U.S.A. model)

After correcting the original service problem perform the follwing safety check before releasing the set to the customer. Connect the insulating-resistance tester between the plug of power supply cord and terminal GND on the back panel.

Specifications: More than 10Mohm at 500V.

PROTECTION OF EYES FROM LASER BEAM DURING SERVICING

This set employs a laser. Therefore, be sure to follow carefully the instructions below when servicing.

WARNING!!

WHEN SERVICING, DO NOT APPROACH THE LASER EXIT WITH THE EYE TOO CLOSELY. INCASE IT IS NECESSARY TO CONFIRM LASER BEAM EMMISION, BE SURE TO OBSERVE FROM A DISTANCE OF MORE THAN 30cm FROM THE SURFACE OF THE OBJECTIVE LENS ON THE OPTICAL PICK-UP BLOCK.

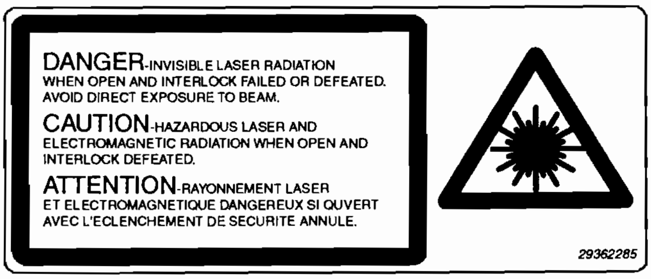
Laser Diode Properties

Material:	GaAS/GaALAs
Wavelength:	778~787nm
Emission Duration:	continuous
Laser output:	MAX. 23mW PLAY 0.9mW+/-0.05mW(Ave) CD-R(REC) 4.9mW+/-0.11mW(Ave) CD-RW(REC) 5.6mW+/-0.1mW(Ave)

LASER WARNING LABEL

The label shown below are affixed.

1. Warning label



DANGER-INVISIBLE LASER RADIATION WHEN OPEN AND INTERLOCK FAILED OR DEFEATED. AVOID DIRECT EXPOSURE TO BEAM.

CAUTION-HAZARDOUS LASER AND ELECTROMAGNETIC RADIATION WHEN OPEN AND INTERLOCK DEFEATED.

ATTENTION-RAYONNEMENT LASER ET ELECTROMAGNETIQUE DANGEREUX SI OUVERT AVEC L'ECLENCHEMENT DE SECURITE ANNULE.

CAUTION ON REPLACEMENT OF OPTICAL PICKUP

The laser diode in the optical pickup block is so sensitive to static electricity, surge current and etc., that the components are liable to be broken down or its reliability remarkably deteriorated.
During repair,carefully take the following precautions. (The following precautions are included in the service parts.)

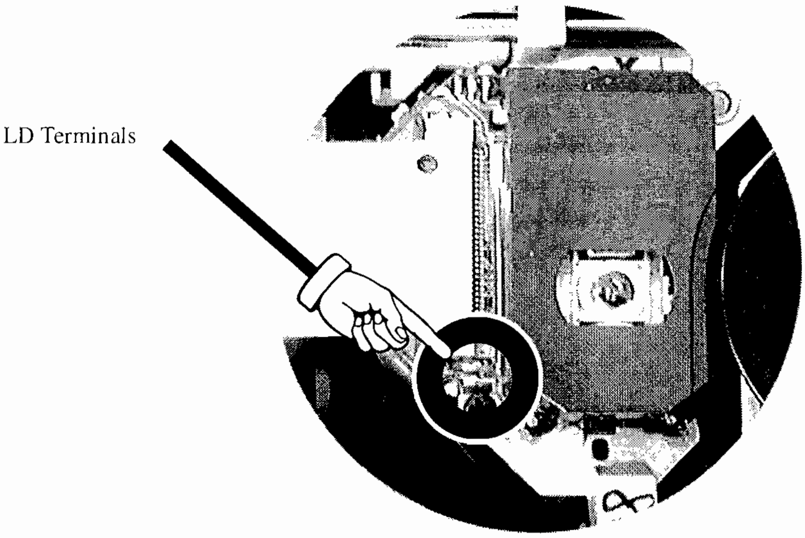
PRECAUTIONS

1. **Ground for the work-desk.**
   Place a conductive sheet such as a sheet of copper (with impedance lower than 10Mohm) on the work-desk and place the set on the conductive sheet so that the chassis.
2. **Grounding for the test equipments and tools.**
   Test equipments and toolings should be grounded in order that their ground level is the same the ground of the power source.
3. **Grounding for the human body.**
   Be sure to put on a wrist-strap for grounding whose other end is grounded.
   Be particularly careful when the workers wear synthetic fiber clothes, or air is dry.
4. **Select a soldering iron that permits no leakage and have the tip of the iron well-grounded.**
5. **Do not check the laser diode terminals with the probe of a circuit tester or oscilloscope.**

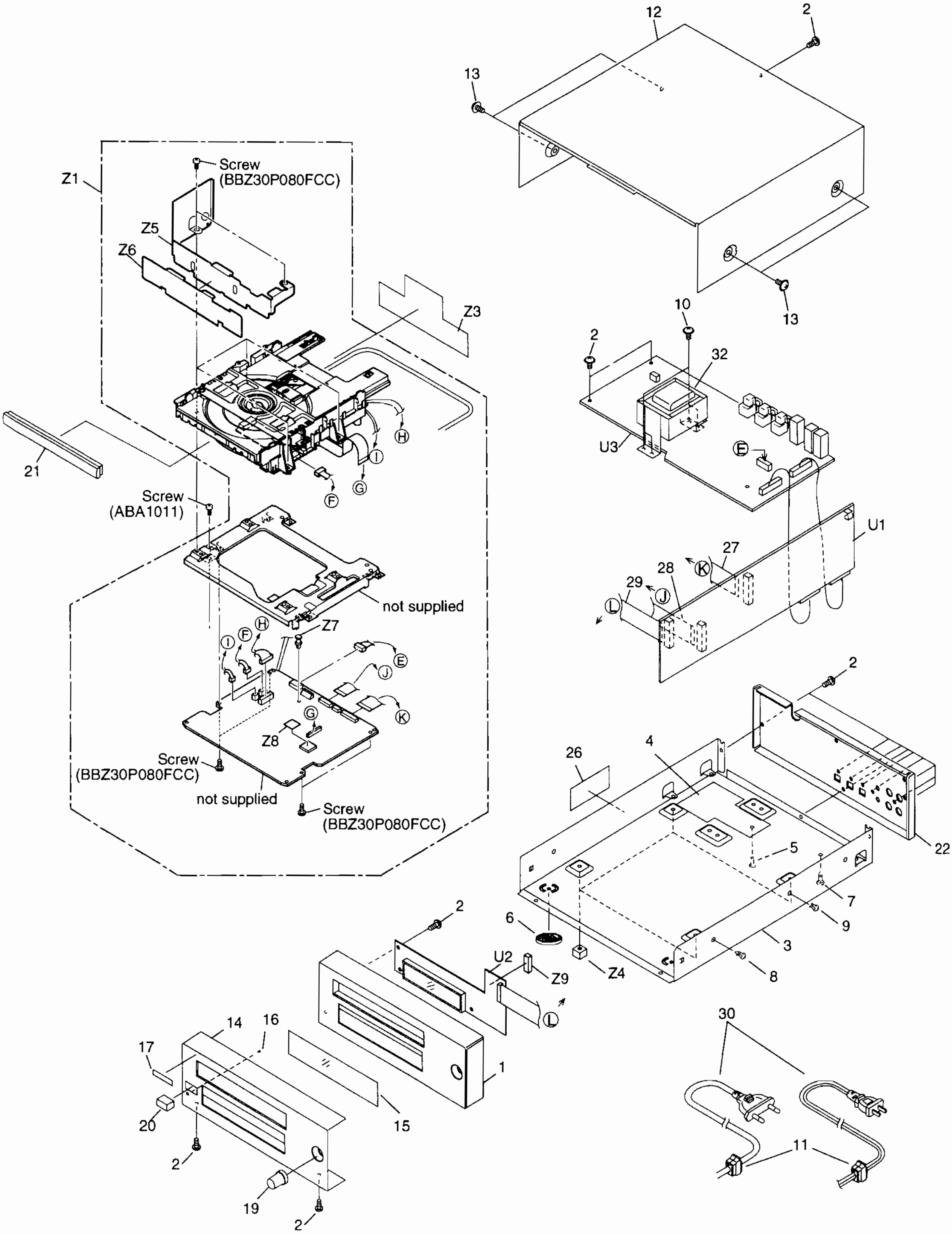
Care should be taken with the optical pickup.

The optical pickup is sensitive to static electricity, surge currents, and other high electrical noise, and because there is the possibility of damage to performance, in the handling of the pickup, the utmost care must be taken, particularly with regard to static electricity.

1. When checking the laser terminal, avoid making connections using the probes of a tester or oscilloscope, or an ordinary power supply.
2. When replacing the optical pickup, first short the LD terminals and remove the connectior. Also, when attaching the new optical pickup, after attaching the connector, unsolder the LD terminals.



CHASSIS-EXPLODED VIEW


12
2
13
13
Z1
Screw
(BBZ30P080FCC)
Z5
Z6
Z3
10
2
32
U3
E
H
I
G
F
21
Screw
(ABA1011)
U1
27
K
28
29
J
L
not supplied
Z7
I
F
H
E
J
K
G
Z8
Screw
(BBZ30P080FCC)
not supplied
Screw
(BBZ30P080FCC)
2
26
4
22
5
7
9
3
8
2
6
U2
Z9
Z4
L
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16
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2
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2
30
11

CHASSIS-EXPLODED PARTS LIST

REF. NO.	PART NO.	DESCRIPTION
1	27111155	Front bracket
2	838130088	3TTB+8B, Screw
3	27100383	Chassis
4	27150445A	Shield Plate
5	880016	P Rivet
6	27175323	Leg Assy
7	27190503	KGLS-8R, Holder
8	27190693	KGLS-6R, Holder
9	27191112	KGPS-6RF, Holder
10	830440089	4TTC+8C(BC), Screw
11	27300750	Bushing
12	28184775	Cover
13	838930088	3TTB+8B(UN), Screw
14	27212185	Front panel
15	28191876	Clear plate
16	28198864	Facet
17	28135247	Badge
18	29110029	DF tape, W3
19	28325555	Knob, (AMCS)
20	28325741	Knob, (POW)
21	28148438	Tray Panel
22	27122697	Rear panel <PP,PT>
22	27122698	Rear panel <DT>
26	29362285	Label ALL
27	2045211512	NCFC5-211512, FFC
28	2045152512	NCFC5-152512, FFC
29	2045201012	NCFC5-201012, FFC
30	253193HIT	⚠ AS-CEE, AC cord <PP,PT>
30	253277MIL	⚠ AS-UC-2#18, AC cord <DT>
31	20022261220	NSAS-12P0829, Socket AS
32	2301450	⚠ NPT-1390P, Power transformer <PP,PT>
32	2301451	⚠ NPT-1390D, Power transformaer <DT>
U1	1H437552-1B	Main circuit pcboard assy (NADG-6852-1B) <PP,PT>
U1	1H437552-1C	Main circuit pcboard assy (NADG-6852-1C) <DT>
U2	1H437553-1B	Display circuit pcboard assy (NADIS-6853-1B/C)
U3	1H437554-1B	Power supply circuit pcboard assy (NAPS-6854-1B/C)
Z1	24800046B	CD-R Mechanism Assy, DB-ALD100
Z2	838430068	3TTB+6B(BC), Screw
Z3	27150446	Shiled plate, (Mechanism)
Z4	28141420	Cushion (Screw)
Z5	PNB1621	Shield Plate
Z6	PNM1349	Cover
Z7	AEC1371	PCB Spacer
Z8	PEB1305	Radiation Sheet
Z9	28141440	t4*25*20, Cushion

NOTE: THE COMPONENTS IDENTIFIED BY MARK ⚠ ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE ONLY WITH PART NUMBER SPECIFIED.

<PP> :	230V model Europe, Northern Europe
<DT> :	120V model Singapore, Southeast Asia, the Middle East, Taiwan
<PT> :	230V model Singapore, Southeast Asia, the Middle East, Taiwan

Please send us the contrast sheet included in the CD-R mech. AS, when you replace it.

In CD-R and CD-RW consumer audio applications, the RID code (Recorder Identification code) is mandatory. For more information see the orange books for CD-R and CD-RW.

The RID code is composed of 3 groups in the following way:

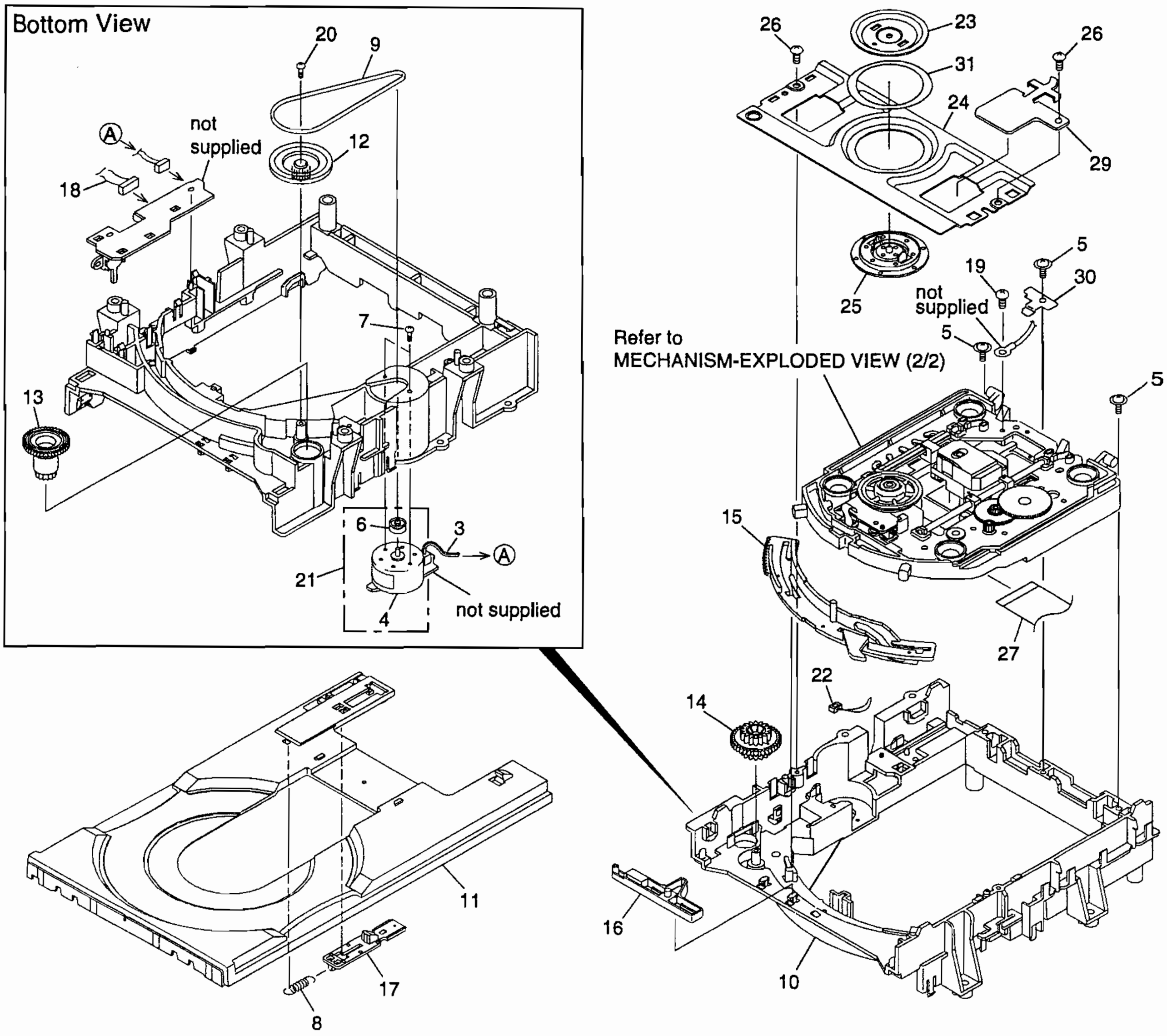
• The Manufacturer Code	(example: "ONK")	0-9 and/or A-Z
• The Type Code	(example: "SA01")	0-9 and/or A-Z, 0-9
• A Recorder Unique Number	(example: "00001")	0-9

Example of the complete RID code:

O	N	K	S	A	0	1	0	0	0	0	1

- The Manufacturer Code shall be requested by the recorder manufacturer, issued and registered by Philips Consumer Electronics B.V.
  ONK : ONKYO
- The Type Code should be recorder type dependent and can represent a code related to the set. It shall be defined by the recorder manufacturer.
  SA01 : Repair Parts for CDR-205X <PP,PT,DT> type
- The Recorder Unique Number is a unique number for each single recorder unit and is basically defined by the recorder manufacturer, but can be automatically generated by the recorder module.

MECHANISM-EXPLODED VIEW (2/1)


Bottom View
20
9
not supplied
12
Ⓐ
18
7
13
6
3
→Ⓐ
21
4
not supplied
26
23
26
31
24
29
25
5
19
not supplied
30
5
Refer to MECHANISM-EXPLODED VIEW (2/2)
5
15
27
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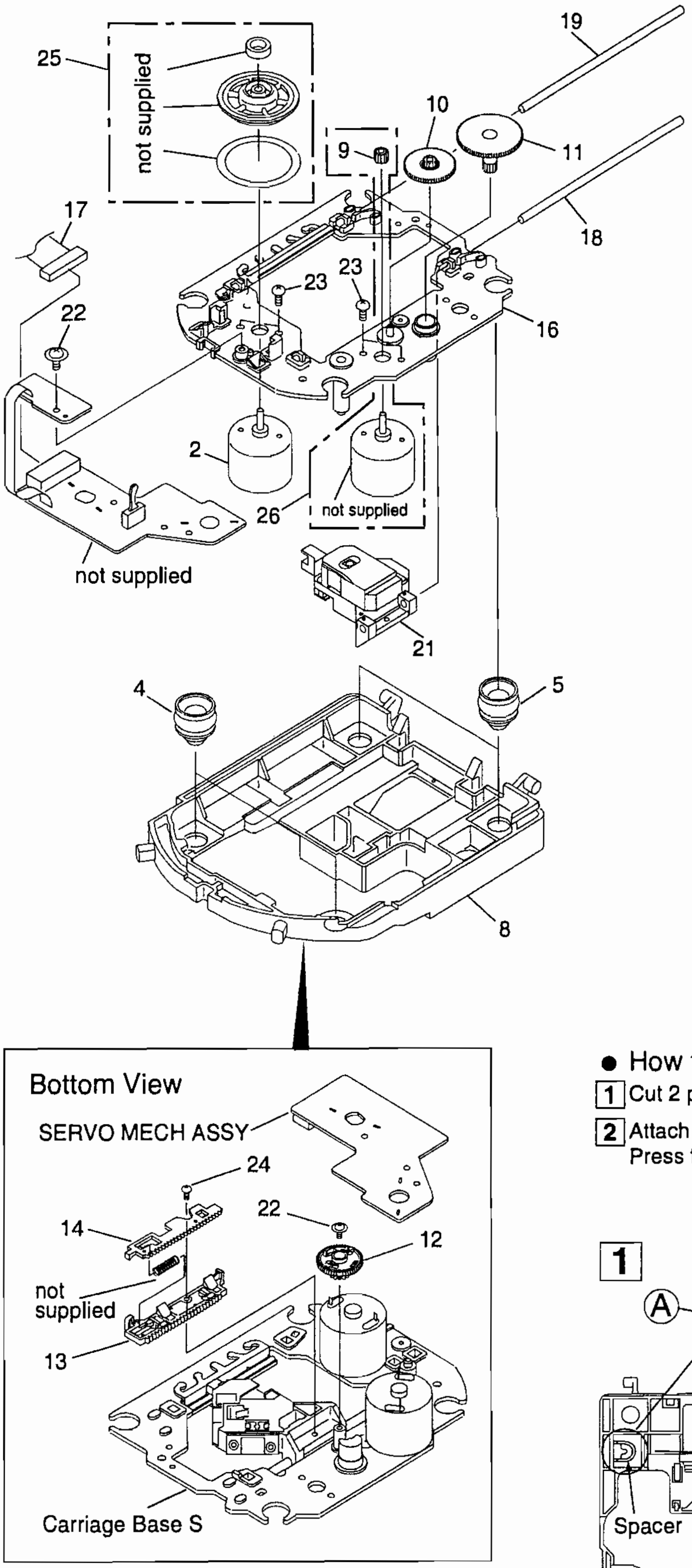
16
17
8
10

PARTS LIST

Ref. No.	PART NO.	DESCRIPTION
1	not supplied	LOADING A PCB Assy
2	not supplied	LOADING B PCB Assy
3	PG02KK-E15	Connector Assy
4	PXM1027	Loading Motor
5	DBA1006	TS Screw
6	PNW1634	Motor Pulley
7	VBA1055	Screw
8	VBH1277	Spring, Tray Holder
9	VEB1260	Belt
10	VNL1844	Loading Base
11	VNL1731	Tray
12	VNL1733	Gear Pulley
13	VNL1734	Loading Gear
14	VNL1735	Drive Gear
15	VNL1736	Drive Cam
16	VNL1820	Lock Plate
17	VNL1739	Tray Stopper
18	PG03KK-E37	Connector Assy
19	BBZ26P040FMC	Screw
20	Z39-019	Screw
21	VXX2505	Loading Motor Assy
22	PEC-107	Binder
23	VNE2068	Clamper Plate
24	VNE2069	Bridge
25	VNL1738	Clamper
26	IPZ26P060FMC	Screw
27	PDD1195	32P F.F.C/30V
29	PNM1341	Tray Holder
30	DNH2076	Stopper
31	DNH2158	Spacer

MECHANISM-EXPLODED VIEW (2/2)


19
25
not supplied
10
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17
18
23
23
22
16
2
26
not supplied
not supplied
21
4
5
8
Bottom View
SERVO MECH ASSY
24
22
14
12
not supplied
13
Carriage Base S

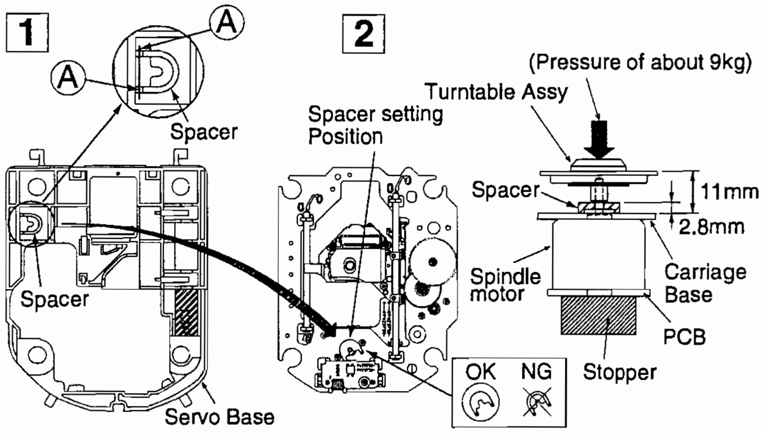
PARTS LIST

Ref. No.	PART NO.	DESCRIPTION
2	PEA1235	DC Motor Assy (Spindle)
4	VEB1301	Float Rubber C
5	AEB7066	Float Rubber B
8	PNW2853	Servo Base
9	PNW2854	Pinion Gear
10	PNW2855	Gear A
11	PNW2856	Gear B
12	PNW2857	Gear C
13	PNW2858	Rack
14	PNW2859	Rack Stopper
16	PNW2874	Carriage Base S
17	PG09KK-E17	Connector Assy
18	VLL1488	Guide Bar
19	VLL1489	Sub Guide Bar
21	PEA1352	CD-R Pickup, KRS-220A
22	Z39-018	Screw
23	PMZ20P030FMC	Screw
24	JGZ17P030FMC	Screw
25	PEA1349	Turn Table Assy
26	PEA1350	Carriage Motor Assy

- How to assemble a turntable.

1 Cut 2 points Ⓐ and remove the Spacer.

2 Attach the Spacer on the Carriage Base.
Press the Turntable (about 9kg). Remove the Spacer.


1
Ⓐ
Ⓐ
Spacer
Spacer
Servo Base
2
(Pressure of about 9kg)
Turntable Assy
Spacer setting Position
Spacer
11mm
2.8mm
Spindle motor
Carriage Base
PCB
Stopper
OK
NG

ADJUSTMENT PROCEDURES

1.Disc

Adjustment for Servo

CD: Test disc (STD-905) or TYPE-4

2.Measurement equipment

(1) Laser power meter : LE8010 (LEADER)

(2) Oscilloscope

(3) CD Jitter meter

3.Entering the test mode

(1) Press ON/OFF switch to release it.
(The CDR-205X turns off.)

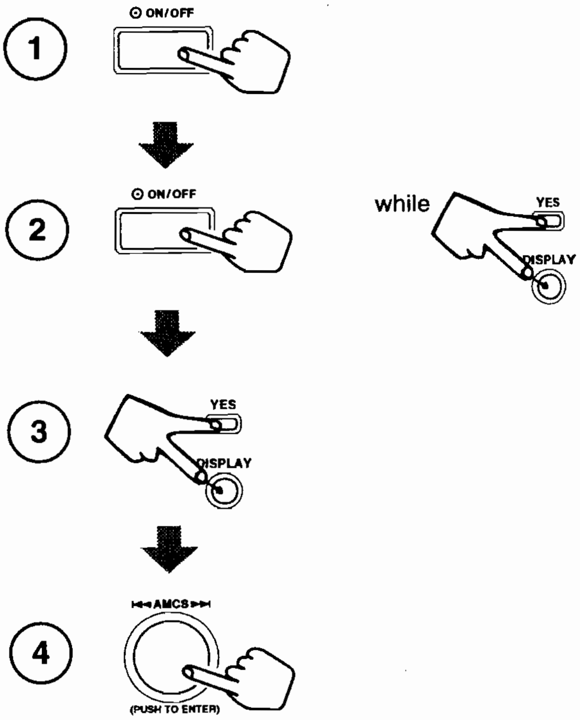
(2) Press in the ON/OFF switch during pressing the YES + DISPLAY buttons.
(The CDR-205X turns on and the display illuminates.)

(3) Press the YES + DISPLAY buttons again at the stop mode.
('TEST mode?' appears)

(4) Press the AMCS dial.

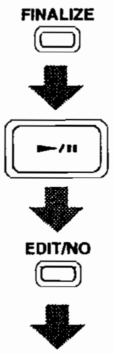
(5) Press the YES + DISPLAY buttons when entering the test mode again.

(6) Using either power off, mechanism type power SW or power OFF, exit the test mode.



4.How to play at the test mode.

Because each servo works independently in the test mode, it is necessary to close each servo one by one by operating the key in the correct sequence to play the disc.

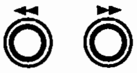


Light up the laserdiode,
Close the focus servo.

Start the spindle motor,
Close the spindle servo.

Close the tracking servo.

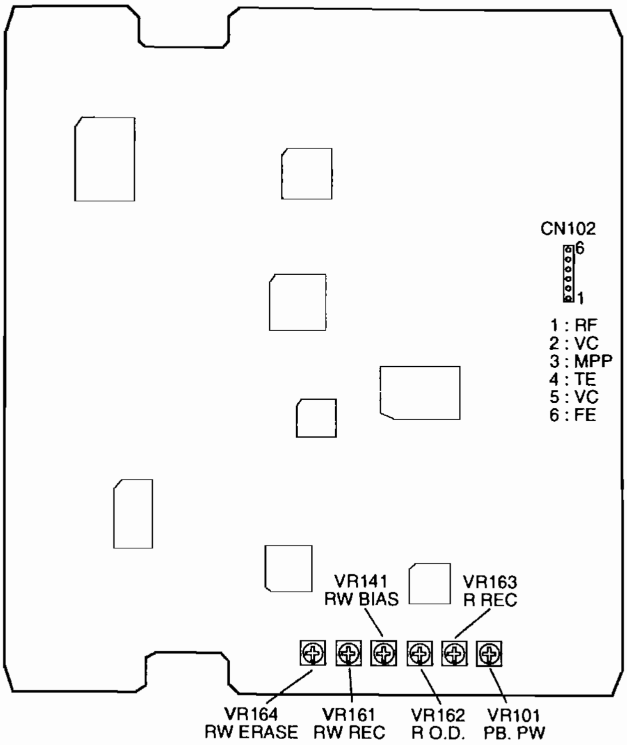
Please press each key operation at intervals of 2 - 3 seconds or more.



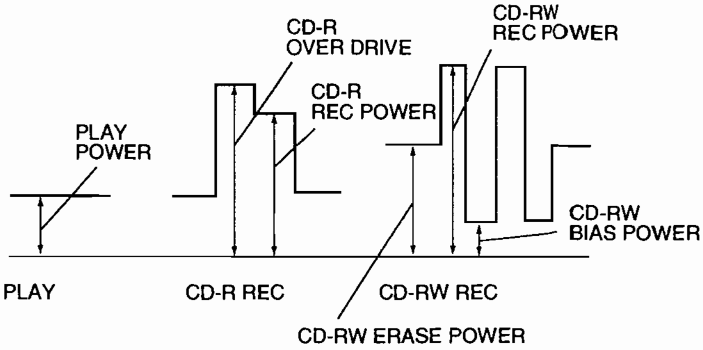
Move the pickup.

ADJUSTMENT PROCEDURES - 1 (Laser Power)

CD-R CORE ASSY


CN102
6
1
1 : RF
2 : VC
3 : MPP
4 : TE
5 : VC
6 : FE
VR141
RW BIAS
VR163
R REC
VR164
RW ERASE
VR161
RW REC
VR162
R O.D.
VR101
PB. PW

Adjustment point


CD-R
OVER DRIVE
CD-RW
REC POWER
CD-R
REC POWER
PLAY
POWER
CD-RW
BIAS POWER
PLAY
CD-R REC
CD-RW REC
CD-RW ERASE POWER

Output Power of Laser Diode

1) Fix the receiving unit of the laser power meter to the point which indicates the following values.
The light part of receiving inclines about 10 degrees to the picking up lens and is maximum power.

2) Exceed the turning adjustment value from the state to finish turning in the direction of CCW (anti-clockwise direction) in the direction of CW (clockwise direction) when you turn VR101, VR163, VR162, VR141, VR161, and VR164 occasionally.

3) The wave length setting of the laser power meter is assumed to be 780nm.

(1) Adjustment of the power for playing

Test Point	Lenz of Optical pickup unit
Location	VR101 (PB. PW)
Adjustment value	0.90 mW +/- 0.05 mW

[Procedure]

(1)Repeatedly press the DISPLAY+(◀◀ or ▶▶) buttons until ‘CD’ appears.

(2)Press the ● **REC** button.

(3)Press the CD DUBBING button.
Under such a condition, LaserDiode lights.

(4)Using VR101 in the direction of CW (clock) and match it to the adjustment value.

(5)Press the ■ button.

(2) Adjustment the power for writing with CD-R

Test Point	Lenz of the optical pickup unit
Location	VR163 (R REC.), VR162 (R O. D.)
Adjustment value	VR163 : 4.80 mW +/- 0.1 mW VR162 : Add (0.1 mW +/- 0.01 mW) to the adjustment value of VR163

[PROCEDURE]

(1) Using VR163 and VR162 counterclockwise (CCW) and minimize power.
(2) Repeatedly press the DISPLAY+(◀◀ or ▶▶) buttons until 'CD-R' appears.
(3) Press the ● **REC** button.
(4)Press the CD DUBBING button.
Under such a condition, LaserDiode lights.

Adjustment of Recording power for CD-R
(5) Using VR163 in the direction of clockwise (CW) and match the power to the adjustment value.
Adjustment value: 4.80 mW +/- 0.1 mW.
Adjustment of OverDrive power for CD-R
(6) Using VR162 in the direction of clockwise (CW) like the state of procedure (5) and match the power to the adjustment value.
Adjustment value: adjustment value in (5) + (0.1 mW +/- 0.01 mW)
(7) Press the ■ button.

(3)Adjustment of Recording power for CD-RW

Test point	Lenz of Optical pickup
Location	VR141 (RW BIAS), VR161 (RW REC.), VR164 (RW ERASE)
Adjustment value	VR141 : 0.60 mW +/- 0.05 mW VR161 : 1.30 mW +/- 0.1 mW VR164 : 5.60 mW +/- 0.1 mW

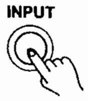
[PROCEDURE]

(1) Using VR141, VR161 and VR164 counterclockwise (CCW) and minimize power.
(2) Press the DISPLAY + (◀◀ or ▶▶) buttons until 'CD-RW'.
(3) Press the ● **REC** button.
(4)Press the CD DUBBING button.
Under such a condition, LaserDiode lights.

Adjustment of Bias power for CD-RW
(5) USing VR141 in the direction of clockwise (CW) and match the power to the adjustment value.
Adjustment value: 0.60 mW +/- 0.05 mW.
Adjustment of Recording power for CD-RW
(6) Using VR161 in the direction of clockwise (CW) and match the power to the adjustment value.
Adjustment value: adjustment value in (5) + (1.30 mW +/- 0.1 mW)
Adjustment of Erasing power for CD-RW
(7) Using VR164 in the direction of clockwise (CW) and match the power to the adjustment value.
Adjustment value: 5.60 mW +/- 0.1 mW.
(8) Press the ■ button.

ADJUSTMENT PROCEDURES - 2 (Servo)

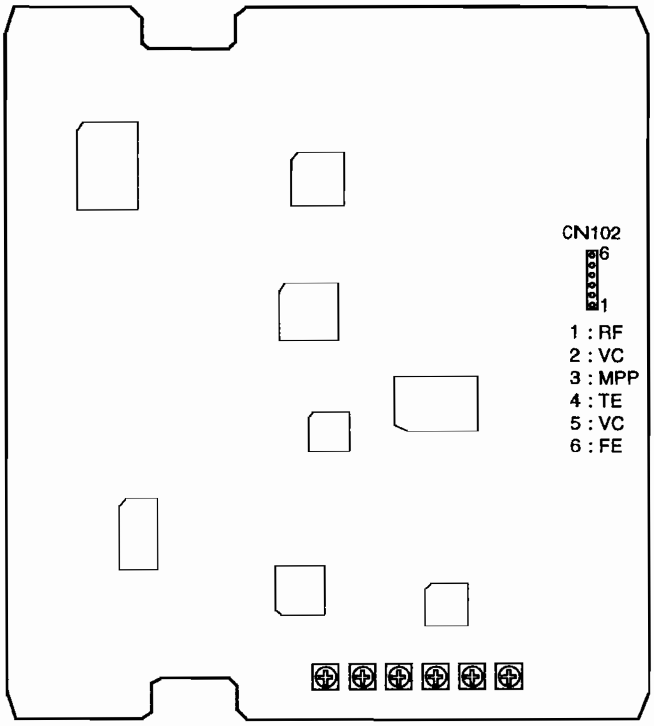
Repeatedly press the INPUT button
until "Digital In1" appears.



Using the AMCS dial, adjust the value of adjustment.

◄◄AMCS►►
(PUSH TO ENTER)

CD-R CORE ASSY


CN102
6
1
1 : RF
2 : VC
3 : MPP
4 : TE
5 : VC
6 : FE

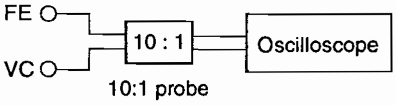
Location of adjustment

(1)Focus off-set

Test point	CN102 - pin 6 (FE)
Location of Adjustment	AMCS dial
Value of Adjustment	0 mV +/- 10 mV

[PROCEDURE]

(1) Repeatedly press the DISPLAY+EDIT/NO buttons until "FC 01F4" appears.
(2) Using the AMCS dial, adjust 0 mV +/- 10 mV at CN102- pin 6.
(3) Press the AMCS dial.


FE
VC
10 : 1
Oscilloscope
10:1 probe

NOTES) Adjustment with the stop mode.

ADJUSTMENT PROCEDURES

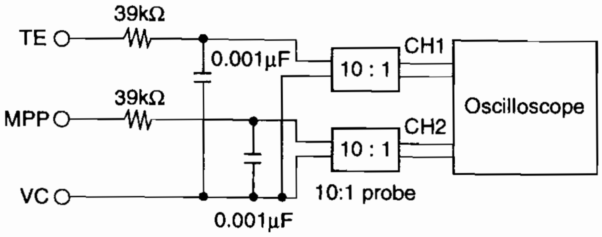
(2) M-S Mix

Test point	CN102 - pin 4 (TE), pin 3 (MPP)
Location	AMCS dial
Value	Equal at CN102 pin 4 (TE), pin 3 (MPP). Or the differential output of two above-mentioned signals is assumed to be minimum.

[PROCEDURE]

(1) Repeatedly press the DISPLAY + EDIT/NO buttons until "MI 02F3"appears.
(2) Press the FINALIZE button.
(3) Press the ►/❚❚ button.
(The status that the spindle rotates by Focus servo ON and Tracking Servo OFF.)
(4) It is adjusted that it becomes the above-mentioned adjustment value like the above-mentioned by "AMCS" knob.
(5) Press the AMCS dial.
(6) Press the ■ button.

NOTE)
Use the following circuit for the adjustment.


39kΩ
TE
0.001µF
10 : 1
CH1
39kΩ
MPP
Oscilloscope
10 : 1
CH2
VC
10:1 probe
0.001µF

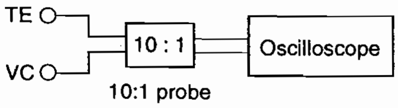
Please adjust it near the middle of DISC.

(3) Tracking offset

Test point	CN102 - pin 4 (TE)
Location	AMCS dial
Value	0 mV +/- 10 mV

[PROCEDURE]

(1) Repeatedly press the DISPLAY + EDIT/NO buttons until "TR 03F6" appears.
(2) Using the AMCS dial, adjust to become the above value of adjustment.
(3) Press the AMCS dial.


TE
VC
10 : 1
Oscilloscope
10:1 probe

NOTES) Adjustment with the stop mode.

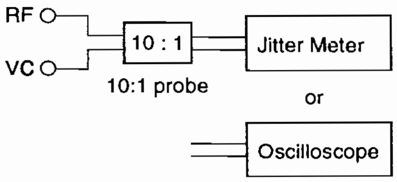
ADJUSTMENT PROCEDURES

(4) Focus Bias

Test point	CN102 - pin 1 (RF)
Location	AMCS dial
Value	RF Jitter is minimum. Or, the eye pattern of the RF signal opens most.

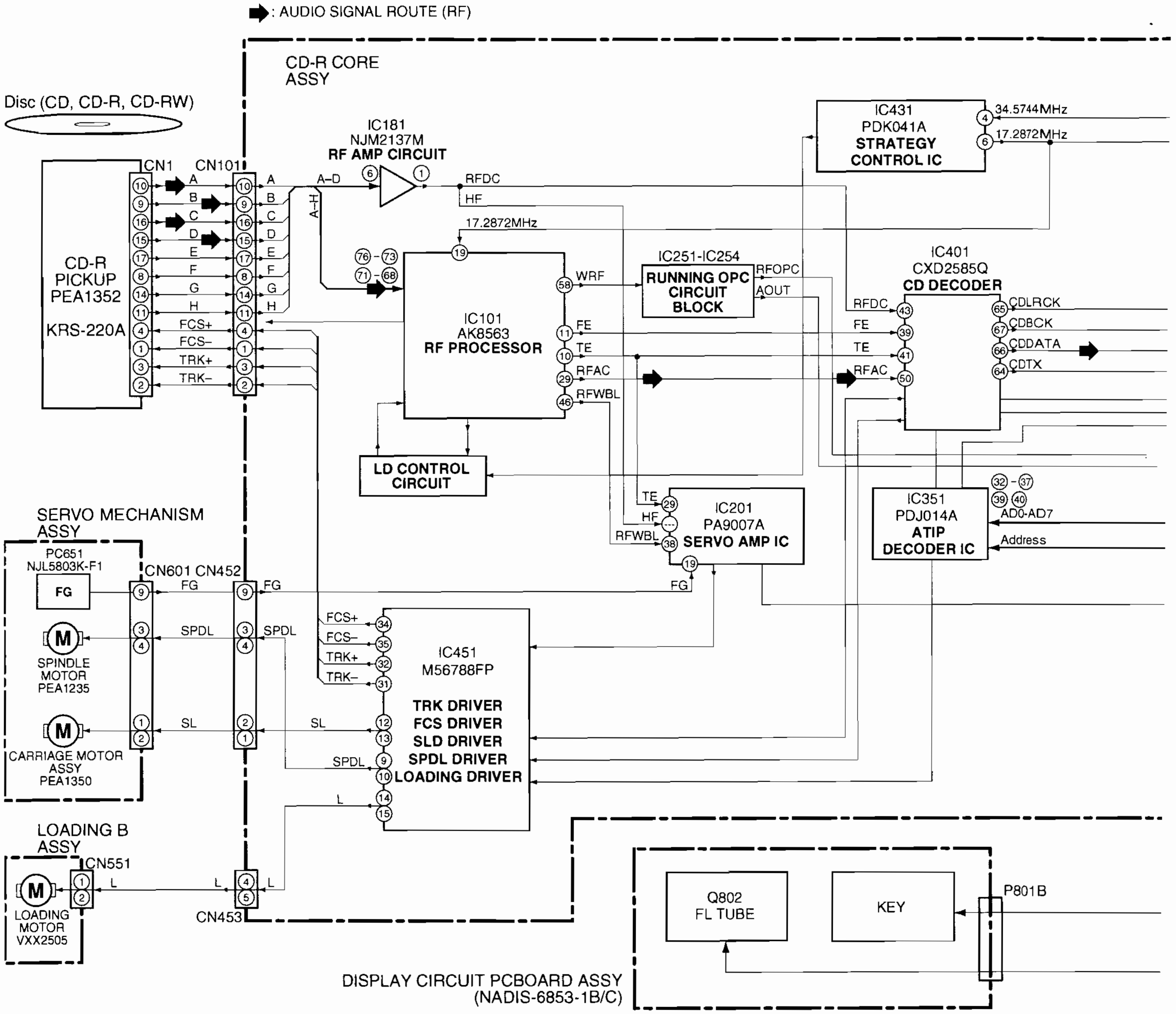
[PROCEDURE]

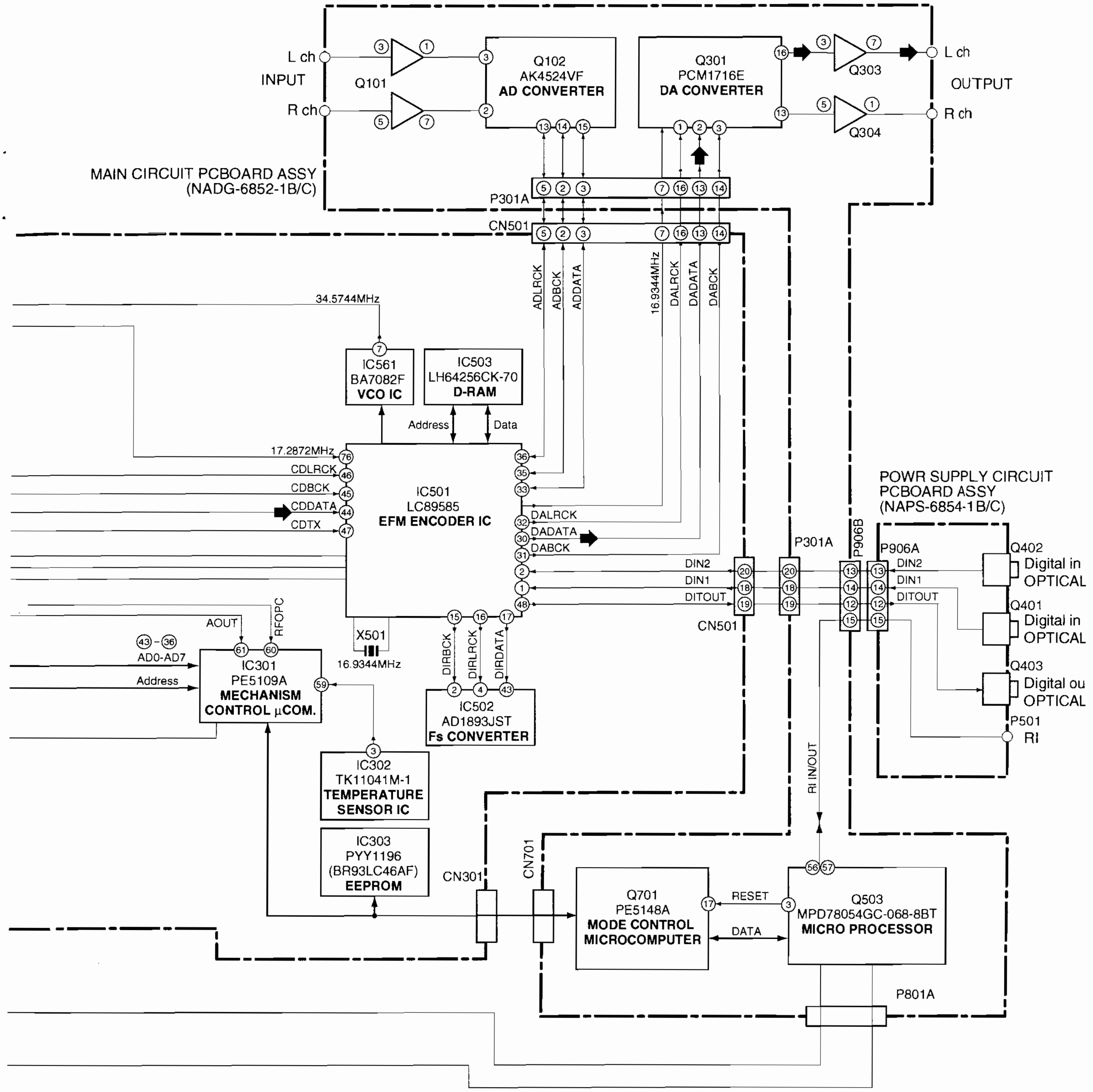
(1) Press the DISPLAY + YES buttons when stop mode.
NOTES) Confirm it is stop mode.
(2) Repeatedly press the DISPLAY + EDIT/NO buttons until "FB 0434" appears.
(3) Press the FINALIZE button.
(4) Press the ►/❚❚ button.
(5) Press the EDIT/NO button.
(6) Using the AMCS dial, adjust to become the above value of adjustment.
Press the AMCS dial when becoming the value of adjustment.
(7) Press the ■ button.



NOTE)
Please adjust it near the middle of DISC.

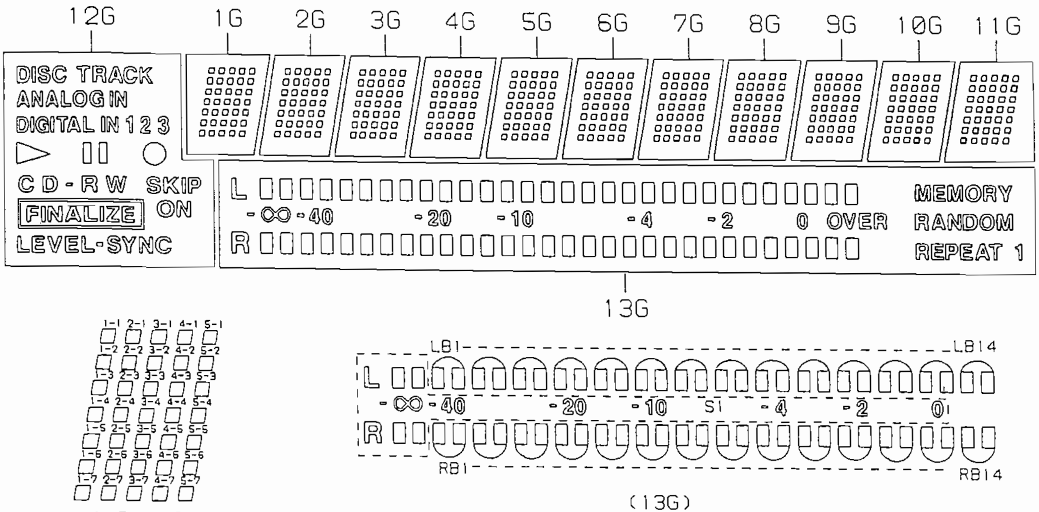
BLOCK DIAGRAM


: AUDIO SIGNAL ROUTE (RF)
CD-R CORE ASSY
Disc (CD, CD-R, CD-RW)
CD-R PICKUP PEA1352
KRS-220A
CN1
CN101
A
B
C
D
E
F
G
H
FCS+
FCS–
TRK+
TRK–
A–D
A–H
IC181
NJM2137M
RF AMP CIRCUIT
RFDC
HF
17.2872MHz
76 - 73
71 - 68
IC101
AK8563
RF PROCESSOR
WRF
FE
TE
RFAC
RFWBL
IC251-IC254
RUNNING OPC CIRCUIT BLOCK
RFOPC
AOUT
IC431
PDK041A
STRATEGY CONTROL IC
34.5744MHz
17.2872MHz
IC401
CXD2585Q
CD DECODER
RFDC
FE
TE
RFAC
CDLRCK
CDBCK
CDDATA
CDTX
LD CONTROL CIRCUIT
TE
HF
RFWBL
IC201
PA9007A
SERVO AMP IC
FG
IC351
PDJ014A
ATIP DECODER IC
32 - 37
39 40
AD0-AD7
Address
SERVO MECHANISM ASSY
PC651
NJL5803K-F1
FG
SPINDLE MOTOR PEA1235
CARRIAGE MOTOR ASSY PEA1350
CN601
CN452
FG
SPDL
SL
FCS+
FCS–
TRK+
TRK–
IC451
M56788FP
TRK DRIVER
FCS DRIVER
SLD DRIVER
SPDL DRIVER
LOADING DRIVER
SPDL
L
LOADING B ASSY
CN551
LOADING MOTOR VXX2505
L
CN453
Q802
FL TUBE
KEY
P801B
DISPLAY CIRCUIT PCBOARD ASSY
(NADIS-6853-1B/C)


L ch
INPUT
R ch
Q101
Q102
AK4524VF
AD CONVERTER
Q301
PCM1716E
DA CONVERTER
Q303
Q304
L ch
OUTPUT
R ch
MAIN CIRCUIT PCBOARD ASSY
(NADG-6852-1B/C)
P301A
CN501
ADLRCK
ADBCK
ADDATA
16.9344MHz
DALRCK
DADATA
DABCK
34.5744MHz
IC561
BA7082F
VCO IC
IC503
LH64256CK-70
D-RAM
Address
Data
17.2872MHz
CDLRCK
CDBCK
CDDATA
CDTX
IC501
LC89585
EFM ENCODER IC
DALRCK
DADATA
DABCK
DIN2
DIN1
DITOUT
P301A
CN501
P906B
P906A
POWR SUPPLY CIRCUIT
PCBOARD ASSY
(NAPS-6854-1B/C)
Q402
Digital in
OPTICAL
Q401
Digital in
OPTICAL
Q403
Digital ou
OPTICAL
P501
RI
AOUT
RFOPC
㊸-㊱
AD0-AD7
Address
IC301
PE5109A
MECHANISM
CONTROL μCOM.
X501
16.9344MHz
DIRBCK
DIRLRCK
DIRDATA
IC502
AD1893JST
Fs CONVERTER
IC302
TK11041M-1
TEMPERATURE
SENSOR IC
IC303
PYY1196
(BR93LC46AF)
EEPROM
CN301
CN701
RI IN/OUT
Q701
PE5148A
MODE CONTROL
MICROCOMPUTER
RESET
DATA
Q503
MPD78054GC-068-8BT
MICRO PROCESSOR
P801A

IC Blockdiagrams and Descriptions

Q801 BJ760GNK:FL Tube


12G
1G
2G
3G
4G
5G
6G
7G
8G
9G
10G
11G
DISC TRACK
ANALOG IN
DIGITAL IN 1 2 3
C D - R W SKIP
FINALIZE ON
LEVEL-SYNC
L
R
-∞ -40 -20 -10 -4 -2 0 OVER
MEMORY
RANDOM
REPEAT 1
13G
1-1 2-1 3-1 4-1 5-1
1-7 2-7 3-7 4-7 5-7
(1G~11G)
LB1
LB14
RB1
RB14
S1
(13G)

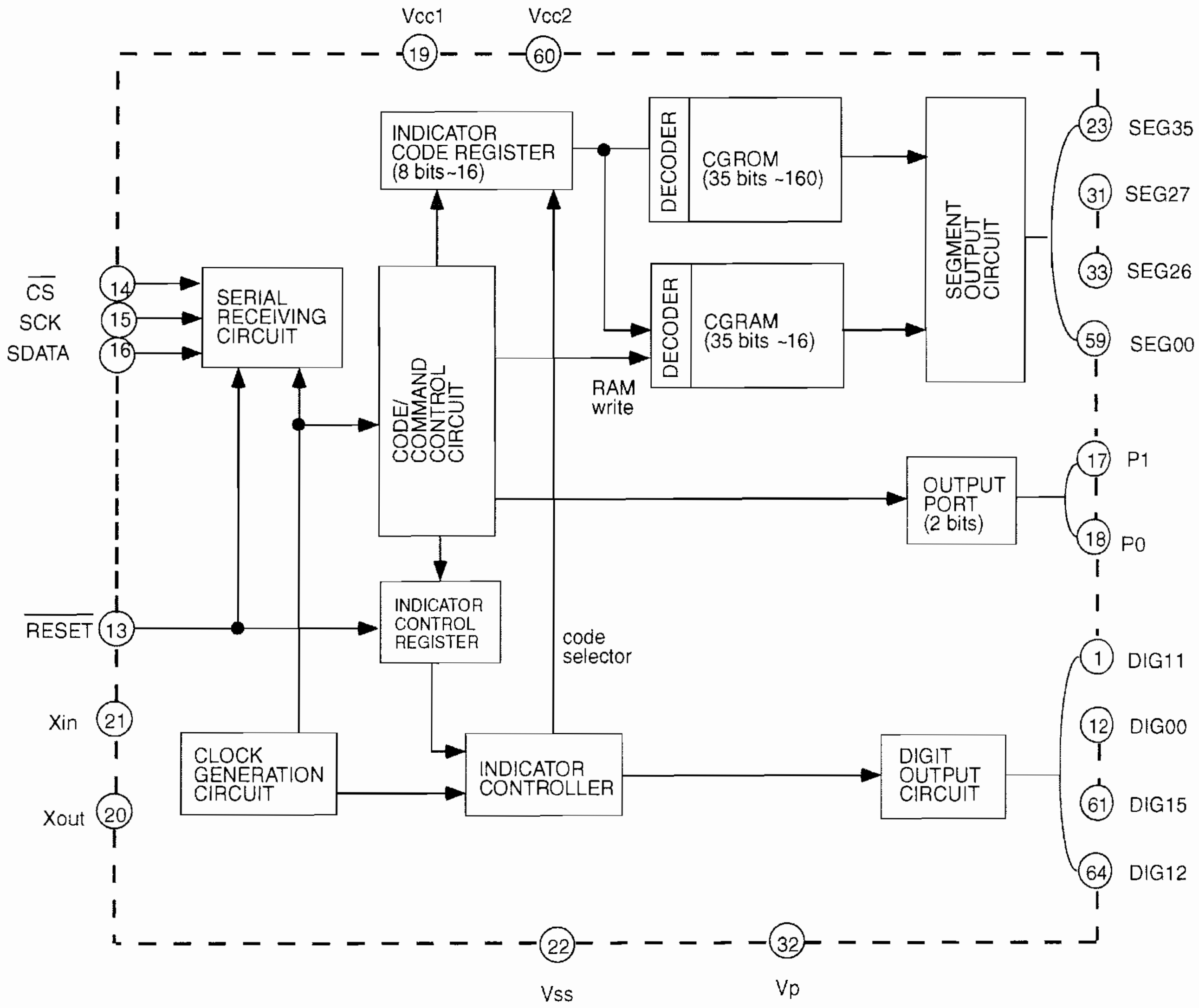
BJ760GNK
GRID ASSIGNMENT

ANODE CONNECTION

	1G~11G	12G	13G
P1	1-1	DISC	LB1
P2	2-1	▷	LB8
P3	3-1	SKIP	RB1
P4	4-1	-	RB8
P5	5-1	-	S1
P6	1-2	TRACK	LB2
P7	2-2	⏸	LB9
P8	3-2	ON	RB2
P9	4-2	-	RB9
P10	5-2	-	OVER
P11	1-3	ANALOG IN	LB3
P12	2-3	○	LB10
P13	3-3	FINALIZE	RB3
P14	4-3	-	RB10
P15	5-3	-	MEMORY
P16	1-4	DIGITAL IN	LB4
P17	2-4	C D	LB11
P18	3-4	LEVEL-SYNC	RB4

	1G~11G	12G	13G
P19	4-4	-	RB11
P20	5-4	-	RANDOM
P21	1-5	1	LB5
P22	2-5	- R	LB12
P23	3-5	-	RB5
P24	4-5	-	RB12
P25	5-5	-	REPEAT
P26	1-6	2	LB6
P27	2-6	W	LB13
P28	3-6	-	RB6
P29	4-6	-	RB13
P30	5-6	-	1 (REPEAT)
P31	1-7	3	LB7
P32	2-7	-	LB14
P33	3-7	-	RB7
P34	4-7	-	RB14
P35	5-7	-	-

Q802 M66004FP:FL Tube Controller

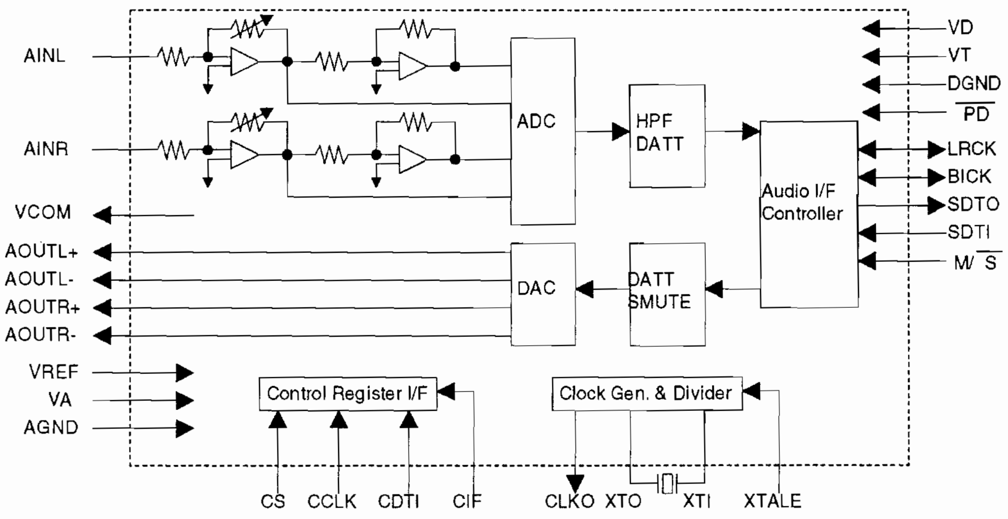

Vcc1
Vcc2
19
60
INDICATOR CODE REGISTER (8 bits~16)
DECODER
CGROM (35 bits ~160)
DECODER
CGRAM (35 bits ~16)
SEGMENT OUTPUT CIRCUIT
23 SEG35
31 SEG27
33 SEG26
59 SEG00
CS 14
SCK 15
SDATA 16
SERIAL RECEIVING CIRCUIT
CODE/ COMMAND CONTROL CIRCUIT
RAM write
OUTPUT PORT (2 bits)
17 P1
18 P0
INDICATOR CONTROL REGISTER
RESET 13
code selector
Xin 21
Xout 20
CLOCK GENERATION CIRCUIT
INDICATOR CONTROLLER
DIGIT OUTPUT CIRCUIT
1 DIG11
12 DIG00
61 DIG15
64 DIG12
22 Vss
32 Vp

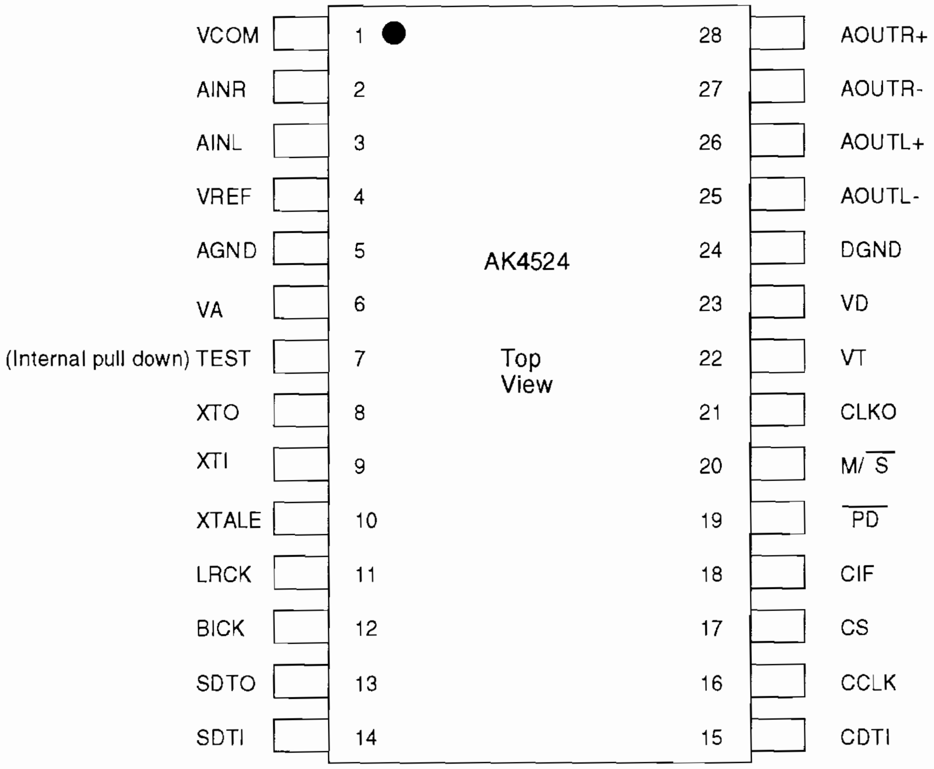
Q503 MPD780054GC-068-8BT:Microprocessor

No.	Pin Name	I/O	Function
1			
2	JOGA	I	Rotary Encoder Input Pin
3	JOGB	I	Rotary Encoder Input Pin
4	GND	-	A/D Converter GND Pin
5	SACK	O	Communication Output Pin (with Mode Controller IC)
6	CODECPOWER	O	CODEC Power Control Output Pin
7			
8	CODECCS	O	CODEC Serial Data Transfer Pin
9	CODECDT	O	CODEC Serial Data Output Pin
10	CODECCLK	O	CODEC Serial Clock Output Pin
11	MDATA	I	Serial Data Input Pin (with Mode Controller IC)
12	SDADA	O	Serial Data Output Pin (with Mode Controller IC)
13	DSCK	I	Clock Input Pin (with Mode Controller IC)
14	FLASH1	I	Sending Pin (for Wrinting Flash ROM)
15	FLASH2	I	Receiving Pin (for Wrinting Flash ROM)
16	~FLRESET	O	Reset Signal Output Pin (to FL Tube Driver IC)
17	FLDATA	O	Serial Data Output Pin (to FL Tube Driver IC)
18	FLCLK	O	Serial Clock Output Pin (to FL Tube Driver IC)
19	FLCS	O	Chip Select Output Pin (to FL Tube Driver IC)
20	FILAMENT	O	Filament Control Output Pin
21~26			
27	~STBYLED	O	Standby LED Control Output Pin
28~29			
30	~CHECK	I	Microprocessor Check Mode Setting Input Pin Check Mode : L
31	~PHOTO	I	Photo Mode Setting Input Pin Photo Mode : L
32			
33	GND	-	Power Supply GND Pin
34~43			
44	MOPOWER	O	Mode Controller Power Control Output Pin
45	~MERESET	O	Reset Signal Output Pin (to Mech. Microprocessor IC)

No.	Pin Name	I/O	Function
46	LINRMUTE	O	Line Mute Control Output Pin Line Mute ON : L
47	MEPOWER	O	Mech. Power Supply Control Output Pin Power Supply ON : H
48	DAPOWER	O	D/A Converter Power Supply Control Output Pin
49	DARESET	O	D/A Converter Reset Signal Output Pin
50	CHKSIGNAL	O	Microprocessor Check Signal Output Pin
51~57			
58	SYSIN	I	RI System Code Input Pin
59	~SYSOUT	O	RI System Code Output Pin
60	~RESET	I	Microprocessor Reset Pin
61	~REMIN	I	Remote Controller Input Pin
62	SREQ	I	Communication Input Pin (with Mode Controller IC)
63	~POFF	I	Checking Power OFF Pin
64~66			
67	GND	-	GND Pin
68	+5V	-	Power Supply Pin (+5V)
69	CLOCK	-	Clock Output Pin (5MHz)
70	CLOCK	-	Clock Input Pin (5MHz)
71~73			
74	+5V	-	Power Supply Pin (+5V)
75	+5V	-	Power Supply Pin (+5V for A/D Port)
76	K1	I	Key Input Pin 1
77	K2	I	Key Input Pin 2
78~79			

Q102 AK4524VF:2Channels A/D D/A Converter

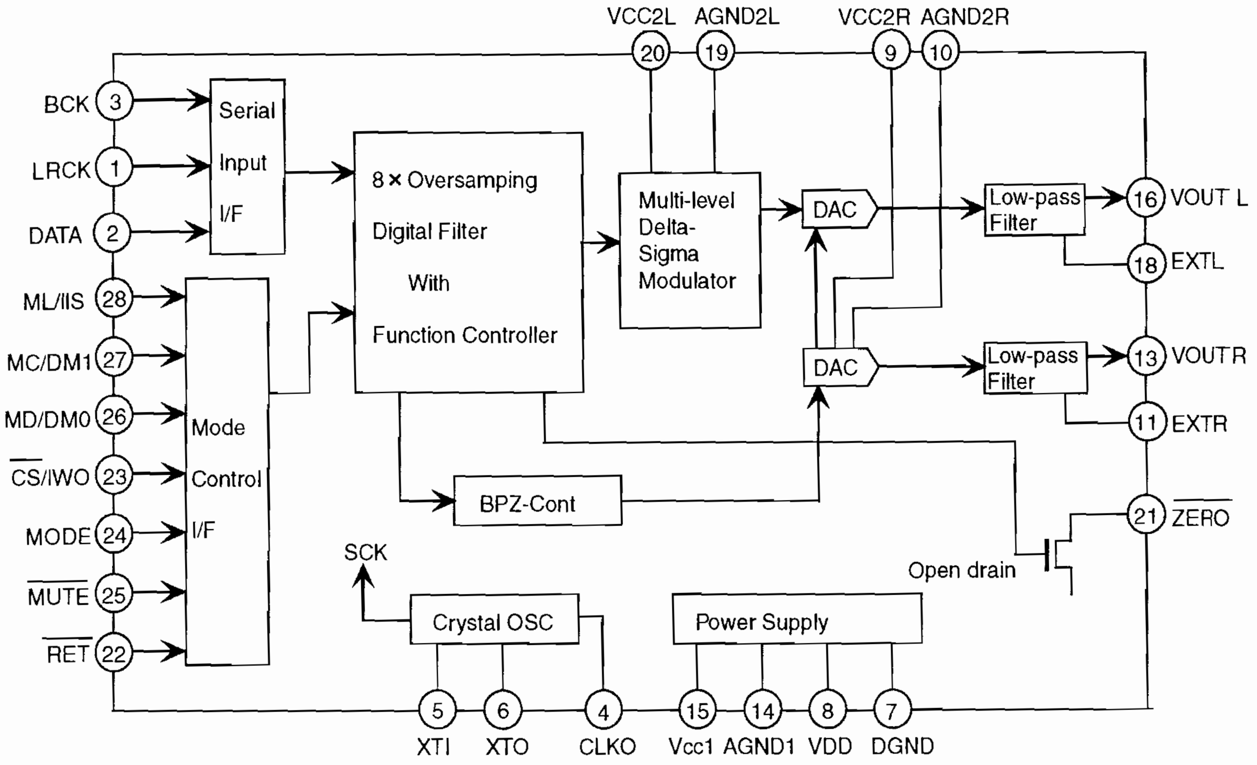

AINL
AINR
VCOM
AOUTL+
AOUTL-
AOUTR+
AOUTR-
VREF
VA
AGND
ADC
HPF
DATT
Audio I/F
Controller
DAC
DATT
SMUTE
Control Register I/F
Clock Gen. & Divider
VD
VT
DGND
PD
LRCK
BICK
SDTO
SDTI
M/ S
CS
CCLK
CDTI
CIF
CLKO
XTO
XTI
XTALE


VCOM 1
AINR 2
AINL 3
VREF 4
AGND 5
VA 6
(Internal pull down) TEST 7
XTO 8
XTI 9
XTALE 10
LRCK 11
BICK 12
SDTO 13
SDTI 14
AK4524
Top
View
28 AOUTR+
27 AOUTR-
26 AOUTL+
25 AOUTL-
24 DGND
23 VD
22 VT
21 CLKO
20 M/ S
19 PD
18 CIF
17 CS
16 CCLK
15 CDTI

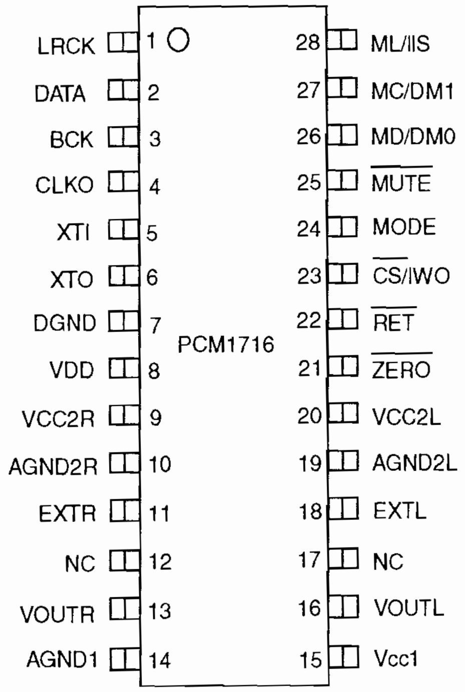
No.	Pin Name	I/O	Function
1	VCOM	O	Common Voltage Output Pin, VA/2 Bias voltage of ADC inputs and DAC outputs.
2	AINR	I	Rch Analog Input Pin
3	AINL	I	Lch Analog Input Pin
4	VREF	I	Voltage Reference Input Pin, VA Used as a voltage reference by ADC & DAC. VREF is connected externally to filtered VA.
5	AGND	-	Analog Ground Pin
6	VA	-	Analog Power Supply Pin, 4.75 5.25V
7	TEST	I	Test Pin (Internal pull-down pin)
8	XTO	O	X'tal OutputPin
9	XTI	I	X'tal/Master Clock Input Pin
10	XTALE	I	X'tal Osc Enable Pin "H": Enable, "L": Disable
11	LRCK	I/O	Input/Output Channel Clock Pin
12	BICK	I/O	Audio Serial Data Clock Pin
13	SDTO	O	Audio Serial Data Output Pin
14	SDTI	I	Audio Serial Data Input Pin
15	CDTI	I	Control Data Input Pin
16	CCLK	I	Control Data Clock Pin
17	CS	I	Chip Select Pin
18	CIF	I	Control Data I/F Format Pin "H": CS falling trigger, "L": CS rising trigger
19	$\overline{\text{PD}}$	I	Power-Down Mode Pin "H": Power up, "L": Power down reset and initialize the control register.
20	M/$\overline{\text{S}}$	I	Master/Slave Mode Pin "H": Master mode, "L": Slave mode
21	CLKO	O	Master Clock Output Pin
22	VT	-	Output Buffer Power Supply Pin, 2.7 5.25V
23	VD	-	Digital Power Supply Pin, 4.75 5.25V
24	DGND	-	Digital Ground Pin
25	AOUTL-	O	Lch Negative Analog Output Pin
26	AOUTL+	O	Lch Positive Analog Output Pin
27	AOUTR-	O	Rch Negative Analog Output Pin
28	AOUTR+	O	Rch Positive Analog Output Pin

Note: All input pins except pull-down pins should not be left floating.

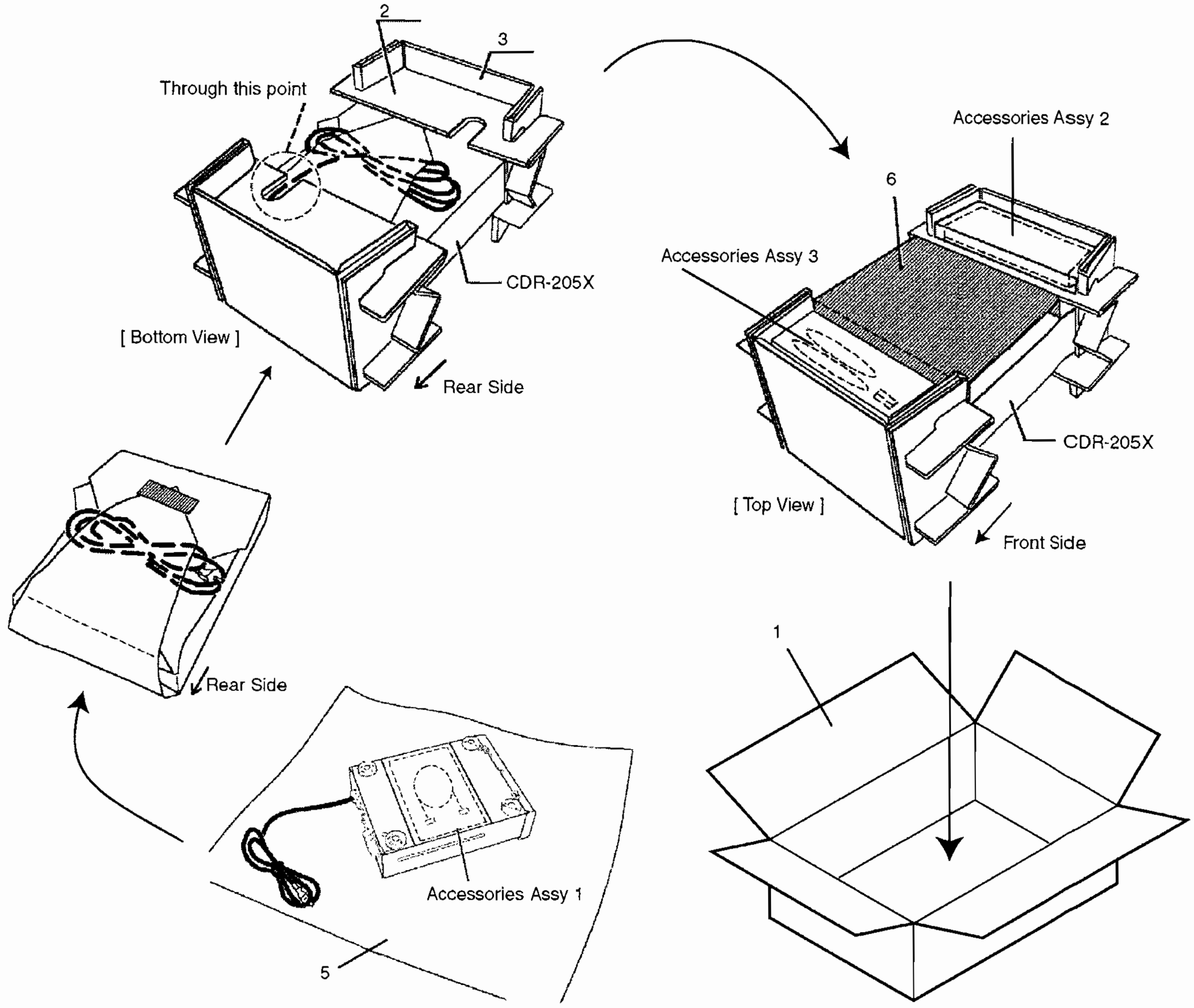
Q301 PCM1716E:D/A Converter


VCC2L
AGND2L
VCC2R
AGND2R
20
19
9
10
BCK 3
LRCK 1
DATA 2
ML/IIS 28
MC/DM1 27
MD/DM0 26
CS/IWO 23
MODE 24
MUTE 25
RET 22
Serial Input I/F
8 × Oversamping Digital Filter With Function Controller
Multi-level Delta-Sigma Modulator
DAC
DAC
Low-pass Filter
Low-pass Filter
16 VOUT L
18 EXTL
13 VOUTR
11 EXTR
21 ZERO
Mode Control I/F
BPZ-Cont
SCK
Crystal OSC
Power Supply
Open drain
5 XTI
6 XTO
4 CLKO
15 Vcc1
14 AGND1
8 VDD
7 DGND

PCM1716


LRCK 1
DATA 2
BCK 3
CLKO 4
XTI 5
XTO 6
DGND 7
VDD 8
VCC2R 9
AGND2R 10
EXTR 11
NC 12
VOUTR 13
AGND1 14
28 ML/IIS
27 MC/DM1
26 MD/DM0
25 MUTE
24 MODE
23 CS/IWO
22 RET
21 ZERO
20 VCC2L
19 AGND2L
18 EXTL
17 NC
16 VOUTL
15 Vcc1
PCM1716

Packing View


2
3
Through this point
Accessories Assy 2
6
Accessories Assy 3
CDR-205X
[Bottom View]
Rear Side
CDR-205X
[Top View]
Front Side
1
Rear Side
Accessories Assy 1
5

PARTS LIST

PART NO.	DESCRIPTION
Accessories Assy 1	
2050064	Cord Assy, NCS-1P106
29342869	Instruction Manual, E
29342870	Instruction Manual, FS <PP>
29342871	Instruction Manual, GD <PP>
29342872	Instruction Manual, SwI <PP>
29342873	Instruction Manual. T <DT,PT>
Accessories Assy 2	
24140413	Remote Control Unit, RC-413C
Accessories Assy 3	
2010376	Pin Cord Assy
2010375	Cord Assy, 3.5-MINI PLUG
3010054	Battery, UM-3
29100180	Bag, t0.05xD240xW250

REF. NO.	PART NO.	DESCRIPTION
1	29053560	Carton
2	29091888	Pad-A
3	29091889	Pad-B
4	29362590	EAN Label
5	29095835	Sheet, 0.515x650x550
6	29095881	Sheet
7	29362036	Label, (EX)
8	29355333	Instruction Sheet,U7 <PP>

<PP> : 230V model, Europe, Northern Europe

<DT> : 120V model
Singapore, Southeast Asia, the Middle East, Taiwan

<PT> : 230V model
Singapore, Southeast Asia, the Middle East, Taiwan

ONKYO CORPORATION
Sales & Product Planning Div. : 2-1, Nisshin-cho, Neyagawa-shi, OSAKA 572-8540, JAPAN
Tel: 072-831-8111 Fax: 072-833-5222

ONKYO U.S.A. CORPORATION
200 Williams Drive, Ramesy, N.J. 07446, U.S.A.
Tel: 201-825-7950 Fax: 201-825-8150 E-mail: onkyo@onkyousa.com

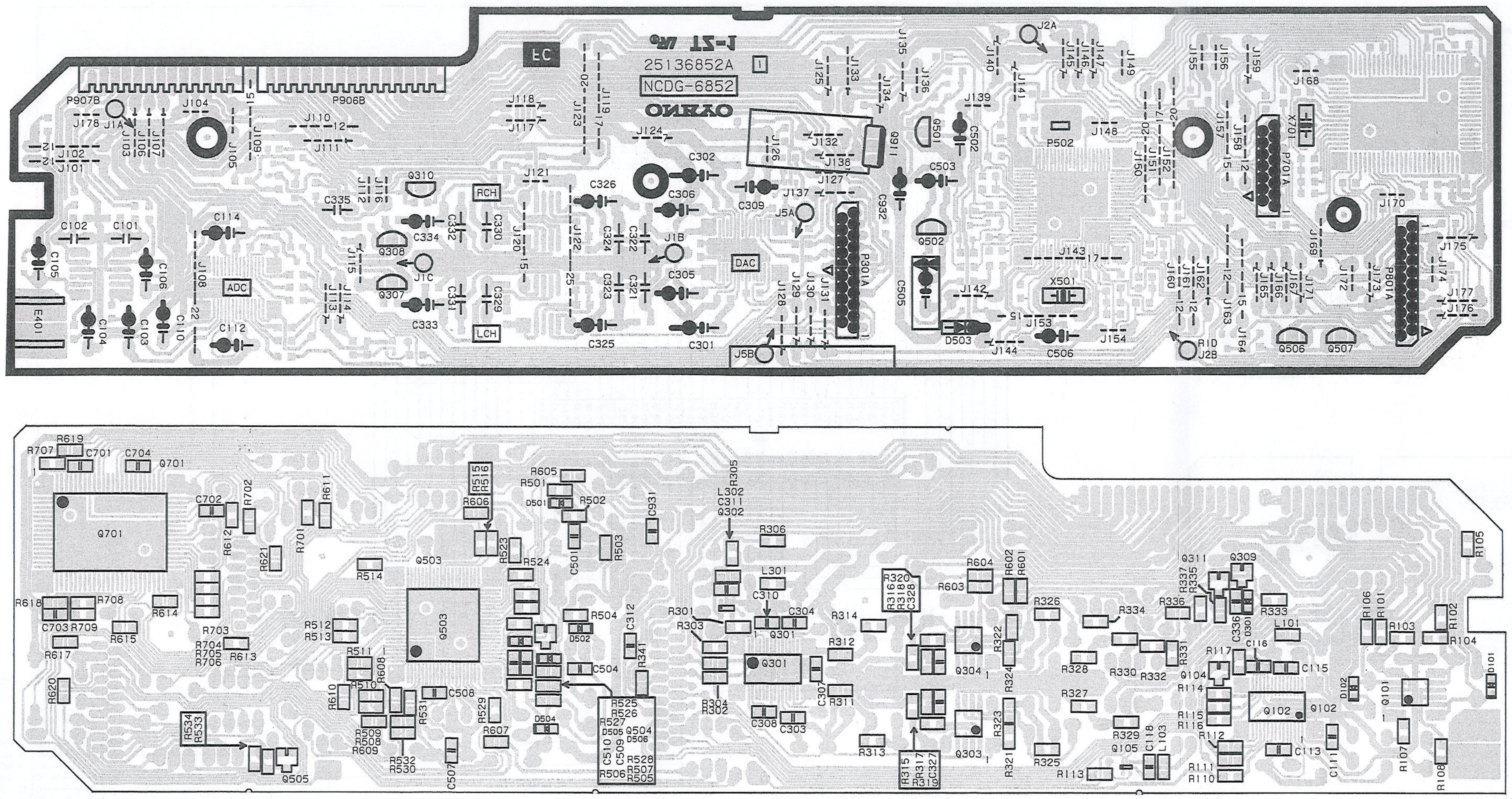
ONKYO EUROPE ELECTRONICS GmbH
Industriestrasse 20, 82110 Germering, GERMANY
Tel: 089-849-320 Fax: 089-849-3265 E-mail: info@onkyo.de

ONKYO CHINA LIMITED
Units 2102-2107, Metroplaza Tower I, 223 Hing Fong Road, Kwai Chung,
N.T., HONG KONG Tel: 852-2429-3118 Fax: 852-2428-9039

ONKYO
HOMEPAGE
http://www.onkyo.co.jp/

0M3646 N0008 Printed in Japan

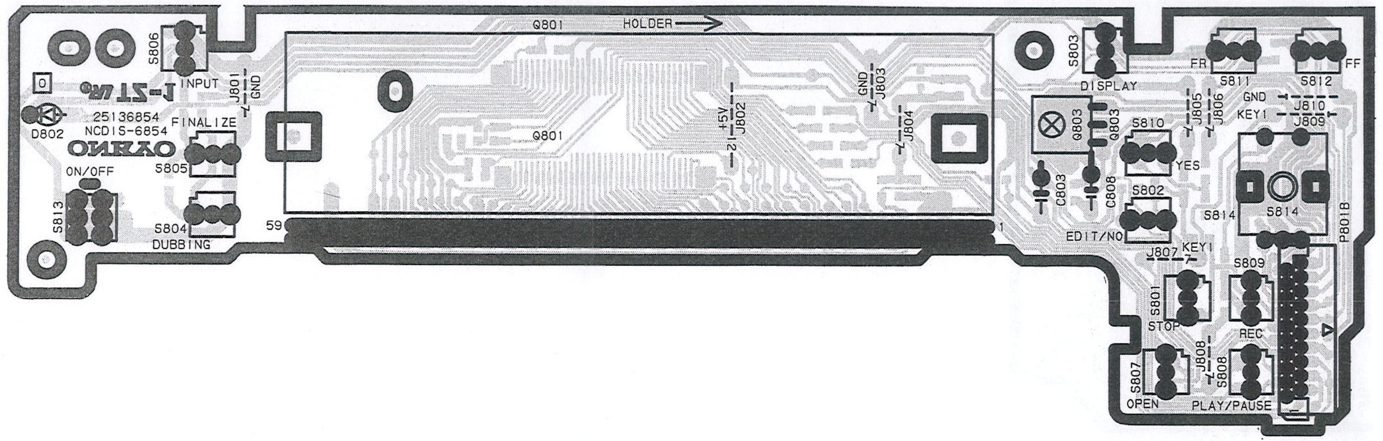
Main circuit pcboard Assy (NADG-6852-1B/C)

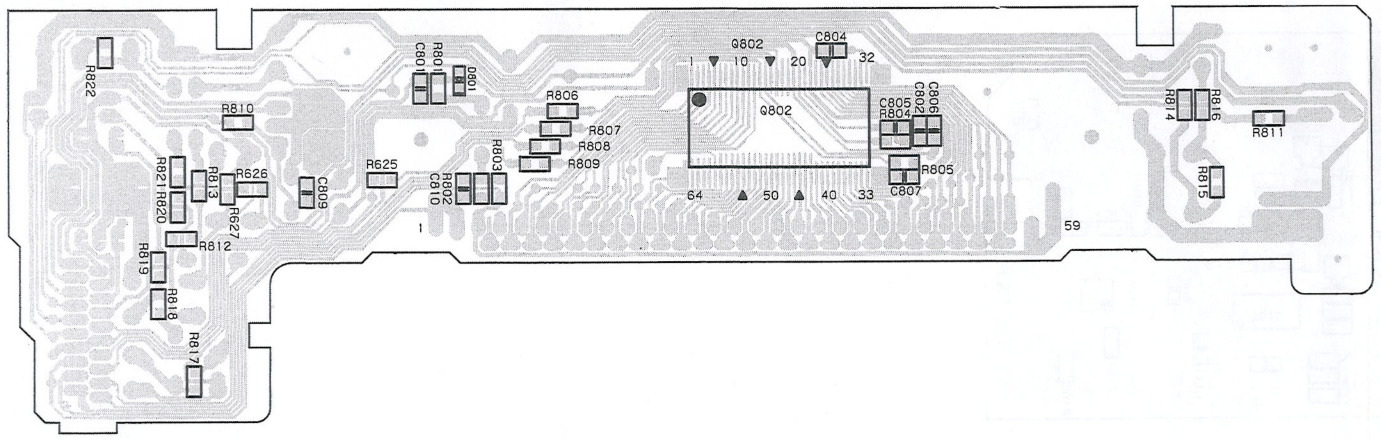


Main circuit pcboard Assy (NADG-6852-1B/C)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Capacitors	
C505	3000078	DX-5R5L104, EDL C
	Diodes	
D101, D102	224490240R2	UDZ2.4B, ZENER D
D301	224490470R2	UDZ4.7B, ZENER D
D501	224490510R2	UDZ5.1B, ZENER D
D502	223234R2	1SS352, C-DIODE
D503	22380035 or 22380260	GP104003E, DIODE or RL1N4003, DIODE
D504, D505	223234R2	1SS352, C-DIODE
D506	224490560R2	UDZ5.6B, ZENER D
	Coils	
L101, L103, L301, L302	230921R2	BLM21B222SPT, CHOKE COIL
	Sockets	
P301A	25052321	NSCT-21P2218, SOCKET
P502	260224	CP-1S, WS CLAMP
P701A	25052315	NSCT-15P2212, SOCKET
	Sockets	
P801A	25052320	NSCT-20P2217, SOCKET
P906B	25052298	NSCT-15P2195, SOCKET
P907B	25052296	NSCT-13P2193, SOCKET
	ICs, Transistors	
Q101	22240608R1	NJM2100M, IC
Q102	22241380R2	AK4524-VF, IC
Q104	2214540R2	RN2403, TR
Q105	22241172R2	TC7S08FU, IC
Q301	22241280R2	PCM1716, IC
Q302	22241473R2	TC7SU04F, IC
Q303, Q304	22241383R2	NJM4565M-D, IC
Q307, Q308	2211705 or 2211706	2SD655-E, TR or 2SD655-F, TR
Q309	2214540R2	RN2403, TR
Q310	2213284 or 2213285	2SC1740S-R, TR or 2SC1740S-S, TR
Q311	2214540R2	RN2403, TR
Q501	22241210	BMR-0101D, IC
Q502	221282	DTC144ES, TR
	ICs, Transistors	
Q503	22241476R3	MPD78P054GC-068-8BT, IC
Q504, Q505	2214540R2	RN2403, TR
Q506, Q507	2211705 or 2211706	2SD655-E, TR or 2SD655-F, TR
Q701	22241551R3	DB-ACP100(PE5148B),IC
Q911	222780565JRC	78M56(NJM78M56FA), IC
	Resistors	
R908	453532294	RNU1/2WCJ-0.22, METAL R
	Cera Lock	
X501	3010242	CST5.00MGW, CERA LOCK
X701	3010163	CST4.19MGW, CERA FIL

Display circuit pcboard Assy (NADIS-6854-1B/C)

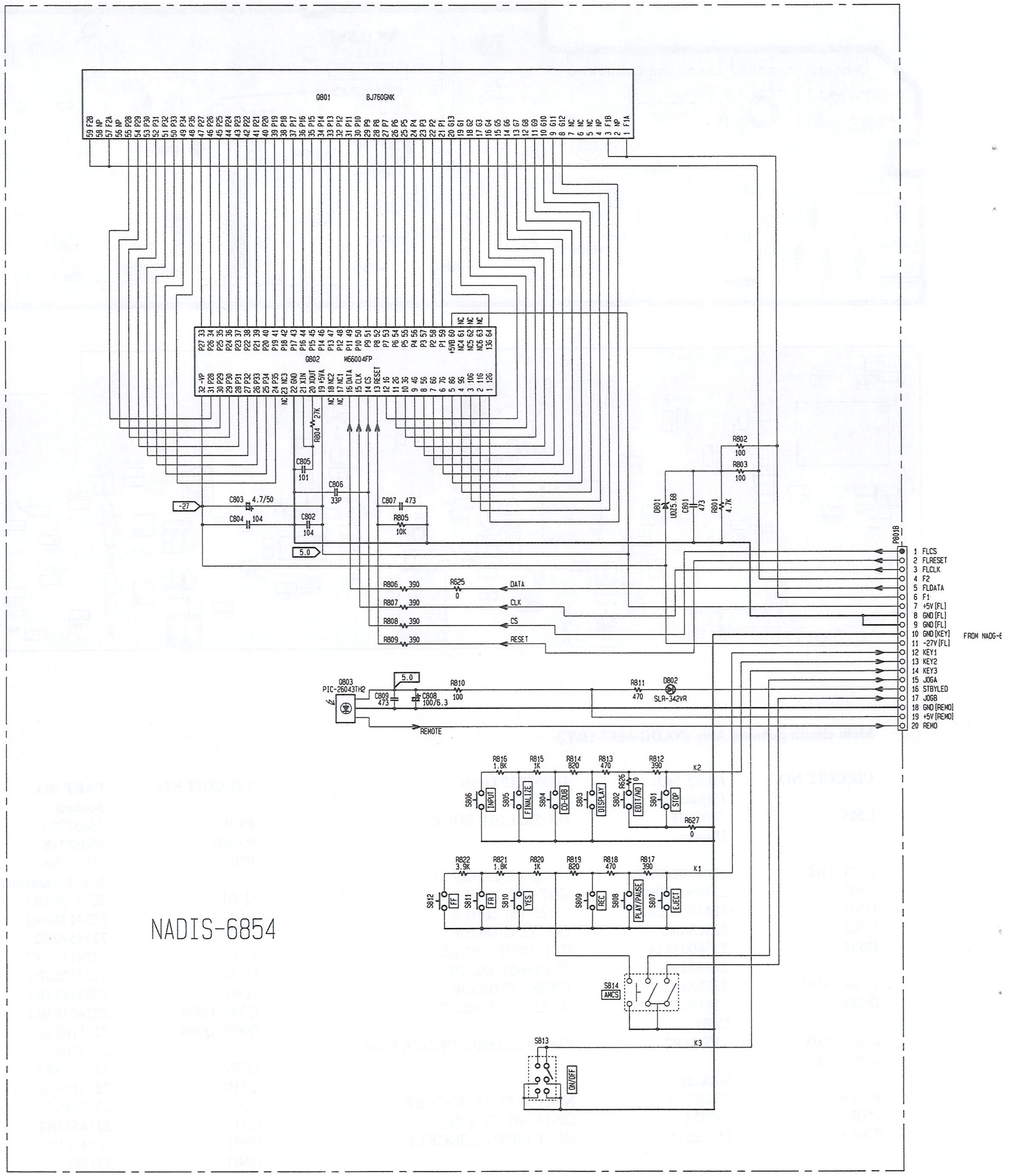

Q801
HOLDER
INPUT
J801
GND
S806
FINALIZE
S805
S804
DUBBING
S813
ON/OFF
D802
25136854
NCDIS-6854
ONKYO
59
1
+5V
J802
J803
J804
S803
DISPLAY
Q803
C803
C808
S810
YES
S802
EDIT/NO
J805
J806
S811
FR
S812
FF
GND
KEY1
J810
J809
S814
P801B
J807
S809
REC
S801
STOP
J808
S807
OPEN
S808
PLAY/PAUSE


Q802
C804
1
10
20
32
64
50
40
33
R822
R810
C801
R801
D801
R806
R807
R808
R809
C805
C802
C806
R804
R805
C807
R803
R802
C810
R625
C809
R626
R627
R813
R821
R820
R812
R819
R818
R817
R814
R816
R811
R815
59
1

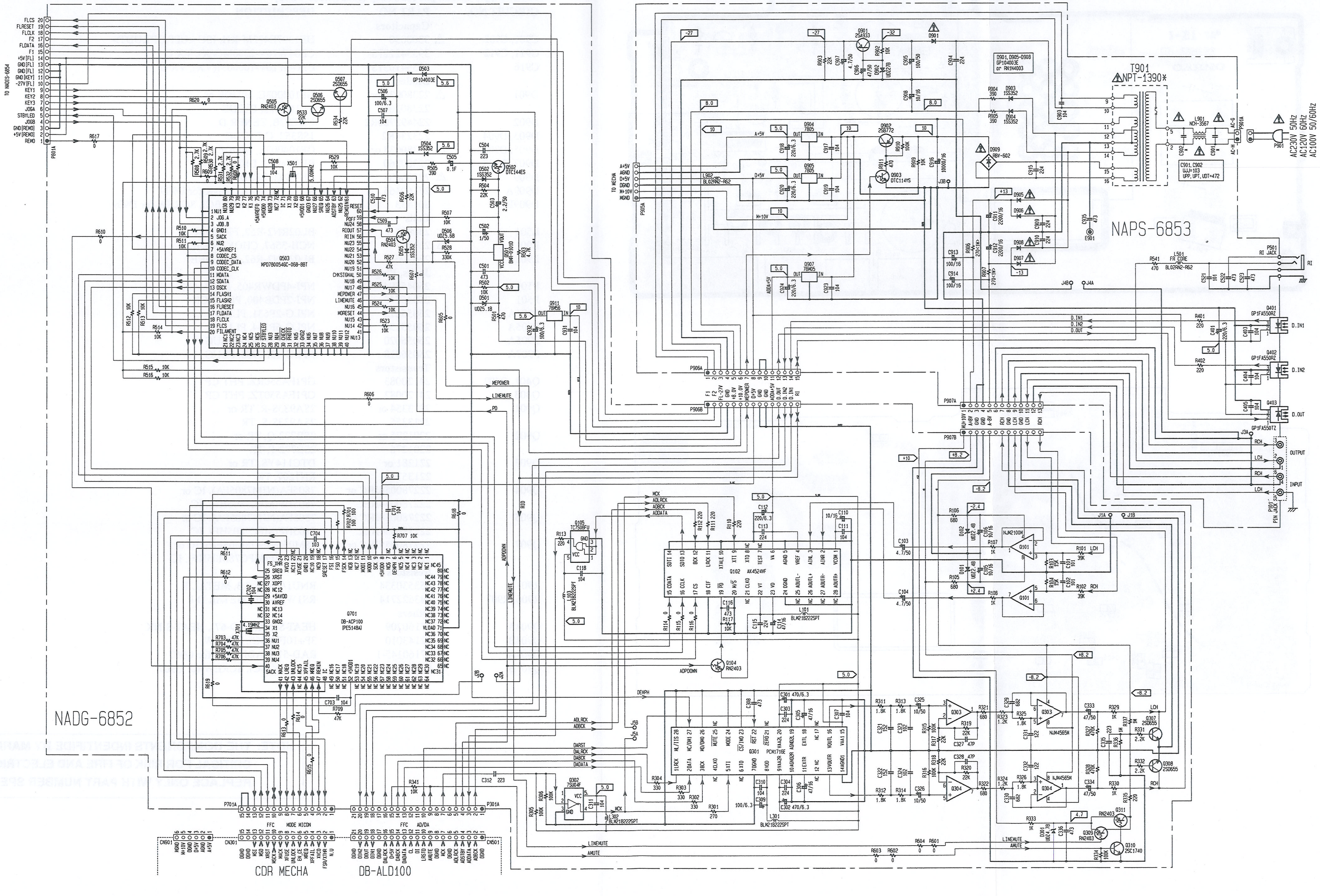
CIRCUIT NO.	PART NO.	DESCRIPTION
	Diodes	
D801	224490560R2	UDZ5.6B, ZENER D
D802	225370	SLR-342VRTB7, LED
	Sockets	
P801B	25052357	NSCT-20P2254, SOCKET
	FL Tube	
Q801	212206	BJ760GNK, FL TUBE
Q801A	27191101	(FL), HOLDER
	ICs	
Q802	22240685R9	M66004FP, IC
Q803	241329	PIC-26043TH2, REMO SENS
	Switches	
S801, S802, S803, S804, S805, S805, S807, S808, S809, S810, S811, S812	25035652	NPS-111-S604, PUSH SW
S813	25035523	NPS-122-L485, P SW
S814	25065507	EC11B15244, ROT ENC

<PP> : 230V model
Europe, Northern Europe
<DT> : 120V model
Singapore, Southeast Asia, the Middle East, Taiwan
<PT> : 230V model
Singapore, Southeast Asia, the Middle East, Taiwan

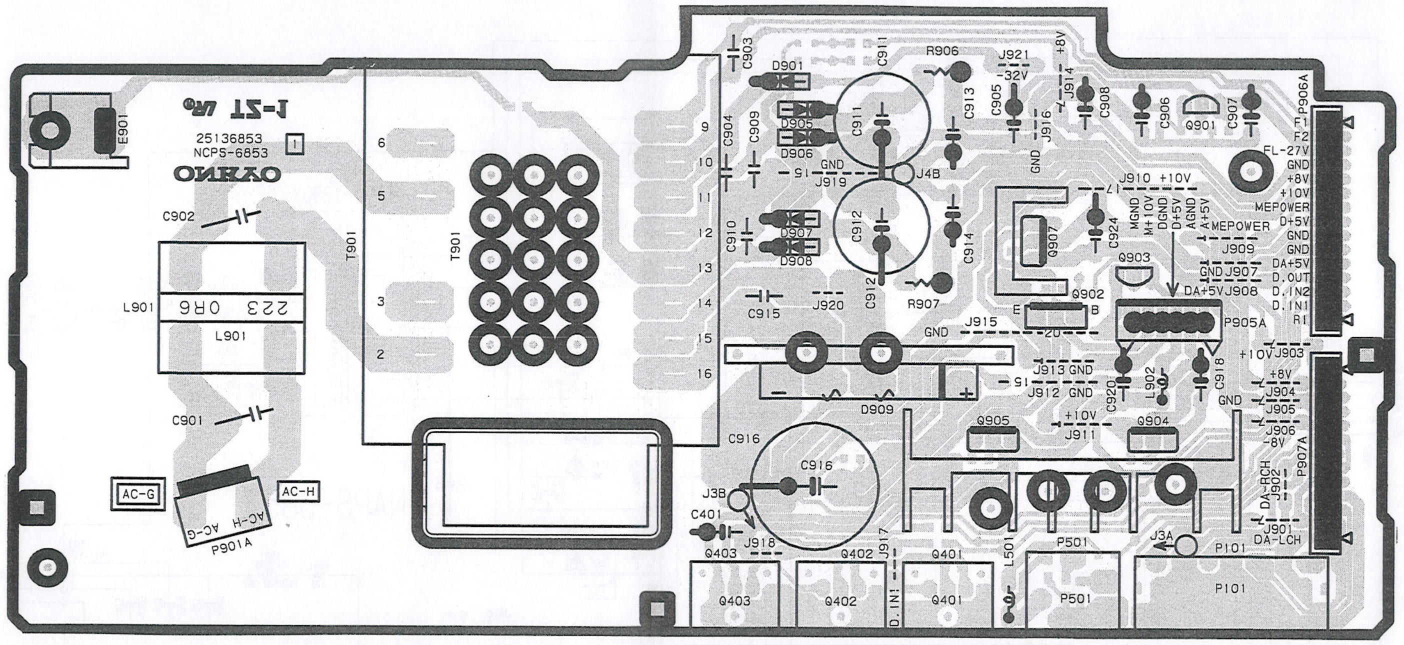
SCHEMATIC DIAGRAM (2/2)


Q801
BJ760GNK
Q802
M66004FP
-27
C803 4.7/50
C804 104
C805 101
C802 104
C806 33P
C807 473
R805 10K
R804 27K
5.0
R806 390
R807 390
R808 390
R809 390
R625 0
DATA
CLK
CS
RESET
R802 100
R803 100
D801 UDZ5.6B
C801 473
R801 4.7K
P801B
1 FLCS
2 FLRESET
3 FLCLK
4 F2
5 FLDATA
6 F1
7 +5V (FL)
8 GND (FL)
9 GND (FL)
10 GND (KEY)
11 -27V (FL)
12 KEY1
13 KEY2
14 KEY3
15 JOGA
16 STBYLED
17 JOGB
18 GND (REMO)
19 +5V (REMO)
20 REMO
FROM NADG-6
Q803
PIC-26043TH2
C809 473
C808 100/6.3
R810 100
R811 470
D802
SLR-342VR
REMOTE
R816 1.8K
R815 1K
R814 820
R813 470
R812 390
R626 0
R627 0
K2
S806 INPUT
S805 FINALIZE
S804 CD-DUB
S803 DISPLAY
S802 EDIT/NO
S801 STOP
R822 3.9K
R821 1.8K
R820 1K
R819 820
R818 470
R817 390
K1
S812 FF
S811 FR
S810 YES
S809 REC
S808 PLAY/PAUSE
S807 EJECT
S814 AMCS
S813 ON/OFF
K3
NADIS-6854

SCHEMATIC DIAGRAM (1/2)


NADG-6852
NAPS-6853
CDR MECHA
DB-ALD100
TO NADIS-6854
TO MECHA
T901
NPT-1390*
AC230V 50Hz
AC120V 60Hz
AC100V 50/60Hz
P901
RI JACK
RI
D.IN1
D.IN2
D.OUT
OUTPUT
INPUT
RCH
LCH
PIN JACK
Q503
MPD780054GC-068-8BT
Q701
DB-ACP100
(PE5148A)
Q102
AK4524VF
Q301
PCM1716E
Q303
NJM4565M
Q304
NJM4565M
Q101
NJM2100M
D901, D905-D908
GP10400E
or RN1N4003
Q904
7805
Q905
7805
Q907
78M05
Q911
78M56
P801A
P906A
P906B
P907A
P907B
P701A
P301A
CN301
CN501
CN901
FFC
MODE MICON
AD/DA
LINEMUTE
AMUTE
MEPOWER
PD
ADPDOWN
DEMPH
ADLRCK
ADBCK
ADDATA
DALRCK
DABCK
DADATA
DARST
MCK

Power supply circuit pcboard Assy (NAPS-6853-1B/C)



ONKYO
25136853
NCPS-6853
E901
C902
L901
223 0R6
C901
AC-G
AC-H
P901A
T901
C903
D901
C904
C909
D905
D906
C911
R906
J921
-32V
C913
C905
J916
J914
+8V
C908
C906
Q901
C907
P906A
J919
J4B
C910
C912
D907
D908
C914
Q907
J910 +10V
C924
Q903
J909
J907
C915
J920
R907
J915
Q902
P905A
J903
J913 GND
J912 GND
D909
C920
D902
C918
J904
J905
J906
J911
Q905
Q904
C916
J3B
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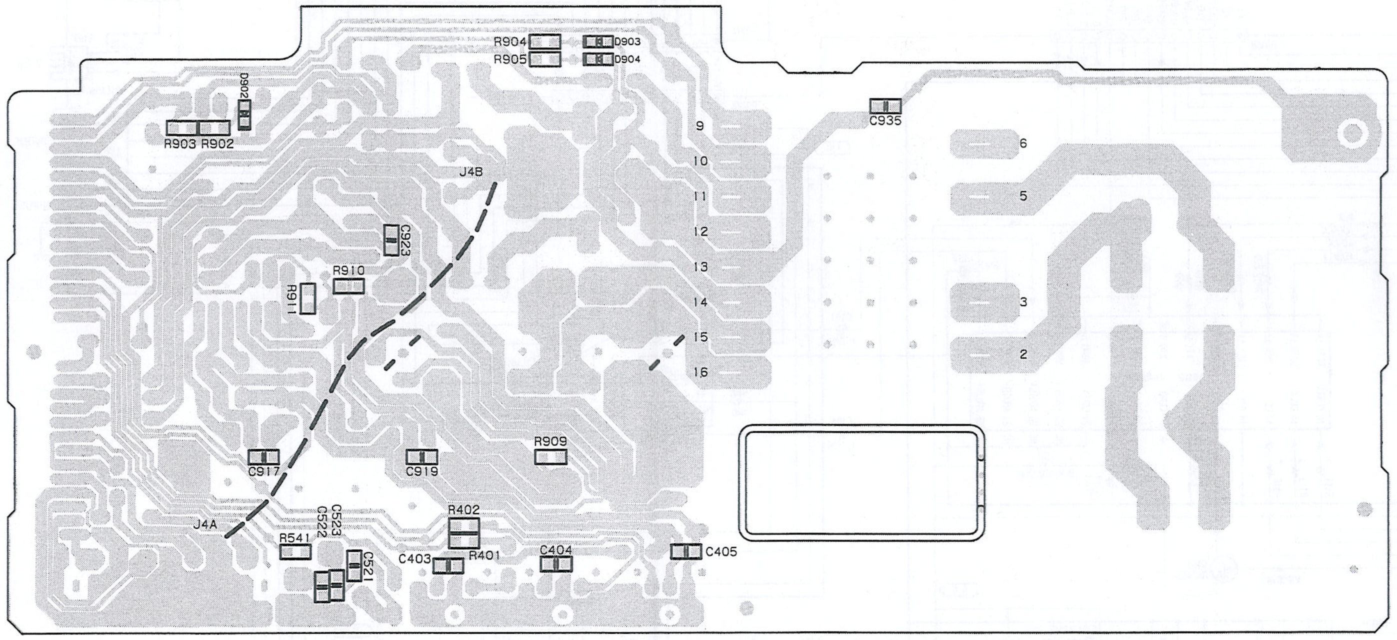
Q403
J918
Q402
J917
Q401
L501
P501
J3A
P101
J901
P907A



R904
R905
D903
D904
D902
R903
R902
C935
J4B
C923
R910
R911
R909
C917
C919
J4A
R541
C523
C522
C521
R402
C403
R401
C404
C405

Power supply circuit pcboard Assy (NAPS-6853-1B/C)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Capacitors	
C901, C902	⚠ 3300030	DE1307E472M-KH, ISC <UPP,UPT,UDT>
C911, C912	393342227S	CE04W16V-2200M(VX), VX C
C916	393341037S	CE04W16V-10000M(VX), VX C
	Diodes	
D901	⚠ 22380035 or	GP104003E, DIODE or
	22380260	RL1N4003, DIODE
D902	224492700R2	UDZ27B, ZENER D
D903, D904	223234R2	1SS352, C-DIODE
D905, D906,	⚠ 22380035 or	GP104003E, DIODE or
D907, D908	22380260	RL1N4003, DIODE
D909	⚠ 22380038	RBV602, DIODE
D909A	27160465	RAD-135, HEAT SINK for D909
D909B	801433	3SMS8W.SW+14B(BC), SCREW for D909
	Coils	
L501	230906	BL02RN2-R62, FR CORE
L901	⚠ 231287	NCH-3567, CHOKE COIL
L902	230906	BL02RN2-R62, FR CORE
	Jacks, Plugs	
P101	25045594	NPJ-4PDWR405, PIN JACK
P501	25045589	NPJ-2PDB400, PIN JACK
P901A	25055675	NPLG-2P631, PLUG
P905A	25055150	NPLG-6P134, PLUG
P906A	25056020	NPLG-15P0970, PLUG
P907A	25056018	NPLG-13P0968, PLUG
	Transistors	
Q401, Q402	24120083	GP1FA550RZ, PHT CP
Q403	24120082	GP1FA550TZ, PHT CP
Q901	2213354 or	2SA933S-R, TR or
	2213355	2SA933S-S, TR
Q902	2201275 or	2SB772-Q, TR or
	2201276	2SB772-P, TR
Q903	221281 or	DTC114YS, TR or
	2213570	RN1207, TR
Q904	222780054JRC or	7805FA(NJM7805FA), IC or
	222780054NEC	7805HF(MPC7805HF), IC
Q905	222780054JRC or	7805FA(NJM7805FA), IC or
	222780054NEC	7805HF(MPC7805HF), IC
Q907	222780055JRC or	78M05(NJM78M05FA), IC or
	222780055NEC	78M05HF(MPC78M05HF), IC
	Resistors	
R901	453530334	RNU1/2WCJ-3.3, METAL R
R906, R907	443622714	RS1WBJ-270, METAL O R
	Others	
Q904A	27160209	HEAT-SINK(RAD-67), HEAT-SINK
Q904B	82143010	3P+10FN(BC), SCREW
Q907A	27160145-1	RAD-51, RADIATOR for Q907
Q907B	82143010	3P+10FN(BC), SCREW for Q907

NOTE: THE COMPONENTS INDENTIFIDE BY MARK ⚠ ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE ONLY WITH PART NUMBER SPECIFIED.